College and University Business

JULY 1949: Accountant's Real Job ★ Where Are Prices Going? Maintenance and Management of Grounds ★ Architectural Models Are Sales Help ★ Purchase Order Forms ★ Food Service Institute Program

ARE COLLEGES FACING THE POSSIBILITY OF OVERBUILDING?

JOHN A. HANNAH
President, Michigan State College

THE FUTILITY OF ONE OBSERVER'S ATTEMPT TO provide an answer to this question applicable to all colleges and universities is emphasized by the fact that the President has asked Congress to appropriate no less than a million dollars with which to finance a thoroughgoing study to find an answer to the same question.

Nothing less than a thoroughgoing study will suffice. No estimate of future college enrollments will be sound unless it takes into account such diverse but complementary factors as probable population growth, economic trends, surpluses or deficits in specific professional and vocational fields, the cost of construction, the cost of higher education to students and their families, the developing trend to more junior colleges, and the inherent desire of Americans to see to it that each succeeding generation is better educated than was the last.

Statistics already available tend to encourage building in haste and at length, just to keep ahead of the ever-rising percentage of high school graduates who go on to college, and increasing demands from industry and certain professions for more trained men and women. But construction costs and financing problems have a definite tendency to discourage building.

Rather than attempt to answer the question and finish by begging it, it might be better to report on the extensive postwar building program at Michigan State College as a case study.

Until 1946 not a building had been constructed on our campus with tax dollars since 1929, when there were about 3000 students. Since 1934 enrollments had increased at the rate of 700 a year, until there were more than 7200 students at the time of Pearl Harbor.

When a wise governor and a far-seeing legislature started planning to accommodate the flood of veterans sure to sweep over the campuses of all Michigan colleges, it was not a question of overbuilding, but whether enough buildings could be put up in time.

Now that enrollments at Michigan State have leveled off at about 16,000 and the number of veterans is decreasing, many are asking whether there will continue to be a need for the seven buildings constructed with $12,000,000 in state funds since the war. Our answer comes quickly—the new buildings we are now using were planned years ago for the time when we would have 7000 students. With 16,000, we certainly have no facilities going to waste. In fact, we are putting to full use temporary buildings equivalent to a structure 225 feet long, 50 feet wide, and 13 stories high.

But even if we had all the permanent facilities we should have to teach 16,000 students, we would still maintain that we had not overbuilt. We would base our position on the theory that even had there been no World War II, the normal growth of our student body at the rate of 700 a year would have resulted in an enrollment of more than 16,000 students by 1953, the year when most of the veterans will have left our campus.

The governing body of our institution has backed its estimates with dollars, for it borrowed more than $13,000,000 to build 11 permanent apartment buildings, three women's and three men's residence halls, an addition to the football stadium, an addition to the college union building, a food stores building, and other service structures. But even when all the new housing is in use, we still will have accommodations for fewer than half the 15,000 students we have set as the desirable size for our student body in the future.

If any rule of thumb can be developed from our experience, it is this: Build to accommodate a student body of a size that would have been reached by 1955 at the prewar rate of growth. And build on a faith in the American people's continuing belief in the value of higher education.

College and University Business

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PUBLISHING AND EDITORIAL OFFICES
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CHICAGO 11, ILL.
SU perior 7-6402

•

EASTERN OFFICE
101 PARK AVE.
NEW YORK 17, N.Y.
MU rray Hill 3-2445

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Among the Authors

W. M. Ingemann

WILLIAM M. INGEMANN, St. Paul architect, has made a specialty of college building design and campus planning. On *p.* 14, he describes the way in which architectural scale models can aid administrators in visualizing their construction program more effectively and can be used as a public relations feature for fund raising. Since 1922 he has concentrated on college design and has served 11 Midwestern colleges as their architect. . . . ROBERT S. CHAMBERLIN, superintendent of operations at the University of Illinois, was for eight years a landscape engineer in the East; he served one year with the U.S. Forest Service prior to accepting his present appointment 10 years ago. He handles operation and maintenance functions in regard to campus grounds, transportation, garage, janitors, warehousing, police, messenger service, and landscape design and construction. He says, "We are in a period of reconstruction, trying to erase scars of postwar campus building and to extend utilities; we hope landscape repairs will be caught up by 1960." His interesting article appears in two parts, the first one in this issue on *p.* 7; the second part will be published in the August issue.

T. M. Rehder

T. M. REHDER, director of residence halls and food service at the State University of Iowa, has been successful in developing a high standard of performance in the use of student labor. On *p.* 32 he outlines that university's training program for student waiters in residence hall dining rooms and the union building. Mr. Rehder has been associated with Iowa's food service department ever since he enrolled as a student, during which time he served as a head waiter. . . . CHARLES W. HAYES, supervisor of purchases at Emory University, reports on *p.* 10 regarding the comparative study of commodity prices which he has been making for the National Association of Educational Buyers during the past several years. He feels that such studies are valuable aids to the budget planning.

H. T. Porter

HAROLD T. PORTER, purchasing agent of Tulane University, has had a varied experience of governmental, business and educational work. That experience was helpful in his revision of purchasing order procedures at Tulane, which he describes on *p.* 27. Prior to his present appointment he had served for two years as assistant comptroller at DePauw University. His hobbies? "Bridge, bowling, two children." . . . GORDON B. BRIDGES, director of nonacademic personnel and dining halls at Amherst College, describes on *p.* 31 the successful installation of a snack bar and fountain service facility on the campus. What was considered by the administration as perhaps a tentative arrangement has become one of the most popular spots on campus. Mr. Bridges has been active in food service work since 1930, both in colleges and summer resort hotels in New England.

Looking Forward

From Our Bookshelf

THE FLIGHT OF COMMENCEMENT ORATORY HAS exhausted itself, the senior has his diploma, and the campus of many a college stands deserted. Now, at last, the college administrator has time for objective analysis. During the summer hiatus he well might devote time to planning and reading.

Careful selection of books can be a great aid to professional growth as a college administrator. They can stimulate; they can instruct. Oliver Wendell Holmes once said that "the best of a book is not the thought which it contains, but the thought which it suggests; just as the charm of music dwells not in the tones but in the echoes of our hearts."

A few pertinent comments on recent books of interest to college administrators might be apropos at this point. Some are specialized in their emphasis; others, more general in nature.

For Those Who Count the Money

Treasurers and business managers will peruse with interest Dr. Clarence Scheps' book on "Accounting for Colleges and Universities." This volume has been designed to serve as a manual for all those who have a part in the business management and administration of a college or university; it should find a ready acceptance. As the dust jacket aptly phrases it: "The accounting system is treated in its larger sense, including not only the fundamental technics of record keeping and entry making but also a complete discussion of budgeting, purchasing, supply and equipment inventories, cost accounting, and financial reporting."

The book is liberally illustrated with suggested forms, all of which follow the recommendations of the National Committee on Standard Reports of Institutions of Higher Education. Dr. Scheps is chief business officer of Tulane University, with the title of executive assistant to the president.

The increasing interest in college retirement programs will make for alert interest in William C. Greenough's "College Retirement and Insurance Plans." The book was published by the Columbia University Press, and the data upon which the volume is based were made available to the author by 800 college and university presidents and business officers who were asked to evaluate the objectives and operations of the retirement plan that they employ.

"How Shall We Pay for Education?" by Prof. Seymour E. Harris of Harvard University, a book published by Harper & Brothers, raises many provocative questions for college business managers to answer. One of the few recent books on educational finance, it provides a mass of data of genuine value to anyone who is daily faced with the financial future of higher education. Inflation, the problem of teachers' salaries and the flow of talent, public spending for education, and the controversial subject of federal aid are clearly presented. Problems of taxation, endowment yield, and increasing tuition fees receive objective and critical treatment.

For Those Who Are Building

Architects and college building committees will discover that the volume "Planning the University Library Building" published by the Princeton University Press will be most helpful. The book represents an exchange of experience and ideas of a nationwide group of librarians, architects and engineers. These members of the Cooperative Committee on Library Planning, which was financed by the Rockefeller Foundation, consider both practical matters of physical construction and vital factors of policy and administration. It is estimated that in the next few years more than $100,000,000 will be spent on constructing college and university library buildings, which makes this new book most timely.

"Theatres and Auditoriums" by Harold Burris-Meyer and Edward C. Cole is a "must" for those institutions planning the construction of a new auditorium or theater. The rapid growth of college union buildings and the consequent emphasis on adequate facilities for dramatic and musical art make for added interest in the book at this time.

For Those in Maintenance Work

"The School Custodian's Housekeeping Handbook" by Henry H. Linn, Leslie C. Helm, and K. P. Grabarkiewicz fully merits its title. In considerable detail and with a how-to-do-it approach, the book discusses floor maintenance, wall cleaning, window washing, furniture cleaning and polishing, care of toilet rooms, proper cleaning of lighting fixtures, necessary cleaning tools, and a wide variety of other subjects.

"Planning and Modernizing the School Plant," authored by Merle A. Stoneman, Knute O. Broady, and Alanson D. Brainard, and published by the University of Nebraska Press, has pertinent application to college and university situations, though originally developed for the secondary school field.

These books are not all easy reading; they take concentrated attention. Seneca, Roman philosopher, warns us that "No book can be so good as to be profitable when negligently read."

The real job of the ACCOUNTANT

is to present and interpret economic data for effective control and administration

G. C. HENRICKSEN
Assistant Business Manager and Comptroller
Duke University

THE EVER-EXPANDING PROGRAM OF the educational institution generates endless needs. The means of financing these wants and desires are limited to the available income. Under these circumstances, it follows that some reasonable plan of coordinating demands to available income is necessary. We shall consider, first, those principles that are concerned with the institutional budget.

"The budget is the device employed . . . to attain a reasonable alignment between needs and resources." We have come to use the words "budget" and "budgeting" to cover many different procedures, but actually budgeting is an all-inclusive procedure that embraces a majority of the business activities of the institution. A budget is *not* what most people conceive it to be. It is not a sum of money to be set aside for definite expenditures (that is, an appropriation); nor is it a series of graphic charts or multitudes of sheets indicating limits not to be exceeded.

Briefly characterized, the budget is a plan of action. It is a road map to a predetermined goal. It is a recognized principle that human effort is more fruitful if directed by a well advised and intelligently conceived program. The conduct of an educational institution is no exception!

FUTURE IS VAGUE

Many institutions are simply on their way. Where, how, why and when are questions that are decided from day to day as they arise and as circumstances occur. No sustained and continuous effort is made to chart a future course that would point the surest way to success. If you question the business managers of such institutions you will usually find that they have some vague ideas as to a program but that no intensive study has been made to determine whether such a general course is the most efficient one that could be pursued.

Business budgeting is a constructive plan of operation. It is not merely a matter of mechanical routine but is the considered plans of practical business management. It follows, then, that the institutional budget should be created by the academic and administrative officers. Allocations should be based on the estimated needs as expressed by various departmental executives.

There are two points of emphasis here: first, the request must be based on "estimated needs." The question to be answered is not, "How much did I spend last year?" but rather, "How much labor, equipment and supplies will I need to render the services required of my department during the coming budget period?" Some budgeting advisers even go so far as to recommend that such estimates

From an address before the Southern Association of College and University Business Officers, Berea, Ky., 1949.

should be made not in dollars, but as so many individuals (in certain categories) and so many units of equipment and supplies. This procedure, of course, would require the accounting department to extend such statistical requests into financial terms.

The second point for emphasis is that the request is made by "various departmental executives." Men do not like to be told what to do; they resent arbitrary orders. Particularly is this true of department heads and minor executives who feel that they know more about their respective divisions than does anyone else, and rightly feel that if plans are to be made for such divisions they should have a part in making them. Then, too, a man will try harder to carry out plans that he has helped to make.

If the head housekeeper has said that he can keep a certain building clean with the help of five men and with an expenditure of $60 a month for cleaning compounds, rags, brooms and mops, he will try to do it. If he fails, he lays himself open to one of two accusations — either he doesn't know his business, or he has been wasteful of time and materials.

BUSINESS OFFICERS' DUTIES

The rôle assumed by the business office in the budget process should consist primarily in assembling and compiling the budget requests, preparing revenue estimates, and advising the academic and administrative officers of the general financial picture. Business officers should not determine the specific amount for a particular department but should assist in the formulation of the various departmental requests and leave the final decision as to individual projects up to the president of the institution.

Yet any budget, when completed, is expressed in accounting terms. It is really a statement of the educational program in monetary units. Once this program, expressed in dollars, is adopted by the governing board, it becomes the responsibility of the business manager to control the budget.

That brings us to those principles concerned with the accounting system. Although the budget constitutes the control over operations, it cannot serve that end unless the accounting system is designed so as to give the needed reports and analyses. It naturally follows, therefore, that the first requirement of the accounting system is that it adhere to a uniform classification of accounts. By this, I mean that the accounting records must be classified in the same manner as the budgetary accounts.

If the budget has been prepared and instituted along functional lines, then the code of accounts must follow a functional classification. If the budget is a detailed one, prepared by objective classifications, then the account classification must also be objective. In other words, the accounting system must follow suit. The essential principle, from the management point of view, concerning the system of accounting is not that it should be uniform with that of every other college or university but that it be correlated with the budget and with the interim reports.

It follows naturally, then, that the accounting system must provide *current* information. Not only must the accounting procedures be up to date but the underlying, supporting detail must be up to the minute. For example, the system of internal control should be geared so that reports of issues from storerooms will be forwarded promptly to the accounting office.

It is here that many systems fail. The accounting office is up to date, all postings are completed on a day-to-day basis, but there are receiving reports and completed work orders that have not been submitted to the accounting office. As a result, the records are of little value from the managerial point of view.

The system and procedures should be so designed as to supply the required information on a current basis. A corollary of this concept is that the records should be so designed as to reveal required information regarding the balance of an account. This is not always easy to accomplish and may require many revisions of the chart of accounts. Decision must be made as to the information it is desired that the accounts disclose. For example, there is a scheme of using five special control accounts to record the complete budgetary accounting.

Briefly characterized, it employs one control account for revenue (both estimated and realized); one for expenditures (both estimated and actual), and one account for the expected margin or surplus. In conjunction with these three controls, there is maintained the customary dual control accounts over the encumbrances: one carrying a debit balance that is considered as an expenditure account for statement purposes, and another carrying an equal credit balance that is handled as a liability account and shown on the balance sheet. The procedures involved in maintaining these controls are not too complicated and the result is a good summary picture.

Such a system has many advantageous features, but it may be that

the information desired cannot be found as the balance of an account and that in this respect it does not measure up to our principles. By way of illustration, you cannot determine the total educational and general expenditures, except by analysis, or by the operation of subcontrol accounts. The latter method is generally preferred and consists of subcontrols for each functional activity of both revenue and expenditures. On the revenue side, these subcontrols would cover all the required divisions and would include endowment income, gifts and grants, income from students, and so forth. Business managers often require information that to others might seem irrelevant. The accounting system should be designed so as readily to disclose information customarily required.

INTERIM REPORTS VALUABLE

Let us turn our attention to the third category of principles, namely, those that are concerned with financial reports. These are the logical expression of the accounting system. If we have taken care in the designing of the accounting system, procedures and records, the preparation of the financial reports is merely a matter of presenting the information supplied by the records. In this connection, the interim reports are of far greater value than the annual reports, so far as the business manager is concerned. The management needs, more than ever before, *adequate* and *timely* data as a basis for executive decision and for control of operation. We have discussed the "timely" part; now we want to consider the "adequate" in connection with the interim reports.

Interim or internal reports should tell management what is happening from month to month, so that the executives can be guided in their plans and make necessary changes in the financial program. A variety of reports have been developed, ranging all the way from brief statements of receipts and disbursements to elaborate cost studies. I know of no pattern or model for such internal reports, but there are a few minimum requirements that such reports should meet if they are adequately to serve management.

The first of these is that the report must be comparative, that is, it must show how the actual operations compare with the operating budget. While this is a fundamental, the method of presentation is not too well defined. Personally, I prefer a direct dollar comparison, but there are many business managers who require, in addition, certain percentages. To make a dollar comparison really meaningful, it is necessary to convert the planned or budgeted operations into parts or segments.

This concept is most clearly illustrated in the budgeted income from students. When comparing this with the realized income at, say, March 31, 1949, the annual budget must be adjusted to show the amount that should be realized at that date. If you operate on the semester basis and your fiscal year ends June 30 or August 31, it is probable that it should all be realized; but if you operate on the quarter basis, a new term may begin April 1, and the planned revenue must reflect this fact.

Many factors must be taken into account when arriving at such adjusted budgets, but a little study and experience will enable you to make accurate breakdowns. If you start with a strict time distribution, such as allocating one-twelfth to each month, and then adjust each month to agree with the facts, you will soon develop a proper and satisfactory allocation. There may be little or no need for adjustment in the expenditure estimates, because they will follow more nearly a time pattern. This is particularly true of the expenditures for personnel.

BASIS FOR CASH BUDGET

This procedure of allocating the income and expense planned in the annual budget to a monthly factor gives an excellent dollar-to-dollar comparison and at the same time creates the basis for a cash budget. A cash budget is a device to consider. In its final analysis, it becomes a forecast of monthly cash requirements and has one distinct advantage, namely, it permits bank balances to be carried at practical working minimums during a large part of the year. The cash budget is an excellent management device for those charged with the responsibility of keeping surplus cash funds invested, for it tells exactly how long they will be *surplus*.

By using the percentage method of comparative reporting, we get the same information regarding the present status, but it fails in giving the advantages of the cash budget. Most internal reports that use the percentage method show the actual dollar transactions to, say, March 31, 1949; the budget for the year; per cent planned to March 31, and actual per cent to that date.

The second requirement for fulfilling the demands of adequacy is that the reports must be current. The procedures for report preparation must be geared to producing the final report within a few days of the close of the period.

SUPPLEMENTARY DATA

The third minimum requirement is that there must be sufficient supplementary data to explain all deviations from the master plan. This brings the accountant and the accounting department into the field of statistics. The value of enrollment statistics is well known, and it is customary to report such data along with the revenue amounts.

Many other valuable statistical aids are often overlooked. For example, from the management point of view, a study of library operations requires more than just functional and objective costs. The supplementary data should include such things as "No. of volumes," "No. of volumes lent," "No. of accessions." This information should be the basis for computing "cataloging cost per volume," "circulation cost per volume," "operation cost per volume lent, per volume stored." These ratios have no absolute meaning but are significant in comparing library operation not only with other institutions but also from year to year, to determine trends.

Just what kind and how many supplementary facts should be supplied will depend upon the circumstances in each individual case. Such facts as are required must be accumulated during the accounting process, and it should not be necessary to do a lot of research in order to answer the managerial questions.

Oliver Wendell Holmes once said: "The significance of facts is more important than the facts themselves, and if we know the significance, we may even forget the facts." It is the managerial significance of business data that is really important. The technics whereby financial transactions are recorded and their values reported are of secondary importance. The real job of the accountant and, therefore, of accounting is the presentation and interpretation of the economic data "for the purpose of effective control and administration."

ELMS ON ILLINOIS CAMPUS

GROUNDS FOR MAINTENANCE AND MANAGEMENT

ROBERT S. CHAMBERLIN
Superintendent of Operations
University of Illinois

CERTAIN AMERICAN COLLEGES AND universities have become renowned for their distinguished faculty or preeminence in some field of education and research. These are achievements of which we can justly be proud, regardless of our own college affiliations. To the alumnus and the campus visitor, however, any college is more likely to be remembered for the glamour or beauty or tradition that is associated with it.

Student memories carried away by the alumnus become mellower and more priceless through the years as he recalls certain beautiful or picturesque buildings, the spacious tree-studded lawns, shaded walks, falling leaves, and the traditional atmosphere of college life. The feeling of pride held by the student for the achievements of his university and all that he associates with it thus creates a bond of affection that remains with him the rest of his days. Accordingly, there is good logic, as well as sound business reasons, for emphasizing beautiful surroundings as a cultural influence in education.

It is my intention to demonstrate and emphasize here the values of beauty and order in the college campus. Following that background, the subject of maintenance and operation to preserve these values will be more fully appreciated.

In any discussion of American colleges and universities inevitably one thinks of Cornell, not necessarily for its achievements in education but always for its extraordinarily picturesque campus on the bluffs overlooking beautiful Lake Cayuga. Wisconsin is always remembered for its unusually happy setting on the shores of the twin lakes, Monona and Mendota. Similarly, when we think of Dartmouth we instinctively recall the snowy white of its chaste New England architecture and the lush green lawns surrounded by the hills and pine forests of New Hampshire.

Or consider little Miami University at Oxford, Ohio. Although not renowned as a great institution in a physical sense, it is certainly a classic example of all that is fine and charming in a campus. It is possessed of an inherently beautiful natural landscape, fine old Colonial architecture, and carefully designed new buildings, magnificent trees and spacious grounds—all perfectly maintained. I shall always remember Miami University with a keen feeling of pleasure, not for its size and grandeur but for its nearly perfect setting and undeniable charm. Its graduates are proud and loyal to their school. That is good public and alumni relations. That is the feeling from which endowments grow.

Public relations is a term of the business world, but to be realistic we must accept the fact that higher education has definitely entered the field of business. Apart from the teaching

function it must be managed as a business; otherwise the university will become decadent and lapse into mediocrity. Indeed, a glance at the records will prove a large number have gone out of business. Thus, if we accept the value of beauty and order as an influence on public relations, we cannot underestimate the need for quality and attractiveness in its physical plant.

For many universities in less scenic locations, such as in the Middle West, the value of a beautiful and well kept campus finally has been recognized. Many of these institutions lately have devoted a tremendous amount of money in artificially creating a landscape atmosphere of which their graduates, faculty and residents of the state well may be proud. However, successfully to achieve and retain beauty, dignity and order in the present crowded postwar period is a problem in design and maintenance requiring an extraordinary amount of vision and persistence.

MASTER PLANS ARE RARE

Successful maintenance of a well established college campus depends to a great extent on the wisdom or whimsey of the generations of planners and builders of the past. Most present day institutions are the result of 75 to 150 years of growth. This growth has usually been somewhat casual and rarely guided by comprehensive planning. Unfortunately, the vision shown by Thomas Jefferson in the development of the University of Virginia is a historical precedent that rarely has been followed. In modern times, as at Duke and the University of Rochester, an entire campus has been built by systematically following a master plan. Such commissions are relatively rare. The confusion resulting from inadequate planning has created a multitude of impossible maintenance problems.

Since the war most universities have been plummeted into the field of mass education to an extent far beyond their wildest dreams. A glance at the case history of the University of Illinois will typify the cause and effect of many present maintenance problems, undoubtedly replicated throughout the nation.

Illinois was founded in 1878, principally as an agricultural school of modest objectives. It has since expanded into a complete university offering nearly all known curriculums in the arts and sciences. Established by federal land grant in Urbana, Ill., on a flat but fertile prairie, a moderate amount of land was later acquired to anticipate what then was considered to be reasonable expansion.

The founders of the university, with an eye for appearances, decided to do everything possible to convert the hot, level campus into a thing of relative comfort, if not beauty. Consequently, the entire area was planted at close intervals with thousands of trees—mostly elms. Through the years the town has closed in and entrenched itself in residential and business developments to the very margin of the original university property, thus throttling expansion and causing vastly inflated expenditures for necessary land acquisition.

By 1940 the university had become a big business enterprise involving millions of dollars in its expenditures for capital improvements. Practically self-sustaining in a physical sense, it owned and operated its own heat, light, power and water utilities; police and fire departments; architectural and construction divisions. In addition, hundreds were employed in maintenance and operating functions.

Just before the war the enrollment leveled off at about 12,000 students established on a long, attenuated campus of approximately 400 acres. (Business developments made lateral expansion prohibitive.) The older section of the campus, comprising about 25 per cent of the land area, is occupied largely by the engineering college in a conglomeration of closely related old buildings and shops. The remainder of the campus is somewhat more spaciously disposed in a north and south quadrangle of relatively formal pattern.

The north quadrangle group is comprised of a collection of academic buildings of substantial, though heterogeneous design, whereas the south quadrangle is a highly formalized development of contemporary buildings of fine Georgian architecture. The latter grouping is magnificent in scale and composition and was considered, when built in the Twenties, to establish the character and order of future buildings to be added or built as replacements in the master plan.

Seventy-five years after being founded, and immediately after World War II, the enrollment demand skyrocketed. Since then the university has strained every resource to provide space and facilities for approximately 20,000 students on the Urbana campus alone, an increase of about 65 per cent practically overnight. This, with a physical plant geared for 12,000 students! All facilities—buildings, walks, drives, parking areas, and utilities—were pathetically inadequate; housing and food service became individual nightmares, and, climaxing everything, the postwar student has indicated paradoxical characteristics of maturity and irresponsibility much different than his prewar prototype.

As a consequence of all this, the university has launched a tremendous building and housing expansion, while struggling to take care of the vast overload in the interim. The master plan of development had to be thoroughly overhauled to meet the demands of the unforeseen peak. Building priorities had to be revised to place emphasis on new phases of engineering and the sciences brought into prominence during wartime research.

Difficult as this transition has been, we have learned many things—the hard way. The postwar period of overcrowding and construction, though frustrating, has served to reemphasize the need for sound, realistic planning in the remodeling of existing facilities and expansion into the new. From the practical standpoint of the maintenance engineer, we have arrived at many conclusions which we hope will materially help the generations of physical plant administrators to follow.

GENERAL

It is axiomatic that good maintenance is dependent on good functional design. If the organizational plan is not realistic, the results will be constant headaches for the maintenance staff. Just as in building design, the circulation plan must be basically sound or the maintenance effort will be frustrating rather than satisfying.

The competent landscape architect will not become preoccupied with superficial planting schemes having to do with subtle combinations of plant materials, textures and colors. These are important for final finish but are basically only "window dressing." If the plan and facilities are not adequately studied, no amount of landscape "frosting" will solve the maintenance problem.

A firsthand knowledge of student mass psychology is of inestimable value in establishing specifications covering walks, drives, parking areas, and traffic facilities to implement the design. If a plan stands the acid test of student

use, if it succeeds in an apparently effortless way in controlling student actions, the designer will earn the respect and gratitude of the entire maintenance organization.

The "time-space" factor in student life on a large campus is of fundamental importance. If the designer would realize the pressure that frequently develops within the student in the mere problem of trying to make classes on time he would develop his entire plan with close attention to geographical factors. Buildings will then fall into general zones based largely on related functions in a given curriculum. Buildings such as the general library and student union will be located central to all zones—where they may be conveniently reached regardless of the school or college to which the student belongs.

It is true that topography will limit or dictate building distribution to a great extent, but, should there be natural impediments, that is all the more reason for design based on interrelated functions.

Be economical of space between buildings to the limit that scale and circulation will allow. Extreme setbacks and expansive quadrangles are nice to look at, but frequently lack unity and are just needless areas to travel. Harvard, Yale and Princeton are, in my opinion, examples of developments that are too tight and crowded. But by the same token, Ohio State, Iowa and, to some extent, Illinois are examples of overlavish use of space.

I dwell on this point somewhat, because it is well recognized that a student under pressure will take the line of least resistance. If that line happens to run across a choice bit of lawn or shrubbery, the same line will eventually become prominent as a muddy path through broken shrubbery.

TRAFFIC AND CIRCULATION

Following the solution of building relationships, it will be necessary to develop walks and drives that are direct, adequately wide, and thoroughly functional.

1. *Walks.* The student will tolerate little compromise between the direct line between two points and any architectural refinement of that line. If the building distribution is formal, as in quadrangles, and there is a definite interrelation between any two buildings, be sure to integrate the circulation pattern in the site plan. Keep in mind that if the direct line between two related buildings' entrances is at 45 degrees to a gridiron arrangement, the design should permit a diagonal walk, because that is the way the students will travel, regardless. If the building distribution is informal, the walk alignment does not pose too serious a problem.

Most ordinary city walks have a minimum width of 5 feet, and that is adequate. The average student walk should not be less than 6 feet and, in expanding increments of 2 feet, up to 16 or 18 feet, if necessary. There is some reason for this. Consider the hourly peaks of class passing wherein 20,000 students are frantically attempting to get from building A to building B—a distance of from 3 to 5 blocks—through crowded walk routes in a net available time of eight minutes. Standard 5 foot walks that are nearly vacant 80 per cent of the time will completely fail under this overload. Obviously, the walk itself does not suffer from the periodic impact, but the margin of lawn on each side will be replaced by a ragged disfiguring dirt path. In addition to creating a slovenly landscape condition, this situation is deadly to building floors in wet weather.

2. *Drives.* Building distribution and related parking areas will establish controls in the location of drives to a large extent. Every building must be serviced daily for removal of wastepaper and trash by disposal trucks. Likewise, it is imperative that every building be readily reached with fire apparatus. Nevertheless, it is highly undesirable to have primary or arterial traffic penetrate beyond the periphery of the campus. Building service and parking access should be provided for by secondary restricted, or even dead-end drives feeding into the campus from through streets, thus eliminating all but a minimum of vehicular traffic as a hazard to student safety.

3. *Parking Areas.* The maintenance problem attached to the design and operation of parking areas is one of the most baffling confronting campus administrators. In most cases the campus was largely developed before automobiles became a so-called necessity. Consequently, space conveniently located to existing buildings is difficult or impossible to find.

The only answer we have arrived at is in placing tight restrictions on student drivers, which, in effect, prohibits them the use of any university parking area, including parking on university drives and adjoining city streets. By thus eliminating approximately 2500 student cars, and by further land acquisition for additional parking lots, we are about balancing the supply to the demand for space.

In our new building developments parking areas will certainly not be an afterthought. Space is being allocated in the site plans to provide this facility for two or more related buildings whenever possible. The importance given the parking function is best realized when we find it justifiable to purchase improved private property for the purpose. This is expensive; nevertheless, the benefits derived in removing congestion from narrow city streets and campus drives are usually worth the expenditure. Suffice to say, the plan proposed should allow for expansion consistent with the future faculty and staff population in any given section of the campus, because it would seem that the automobile is here to stay.

BICYCLE PARKING AREAS

In addition to the automobile, it is essential that bicycles be recognized as important elements of the student traffic and parking problem. At Illinois we cannot overlook the fact that approximately 3000 students and staff members use bicycles in going to and from the campus. In addition to a "bicycle code" or traffic rules, we have developed at least one bicycle parking area for every building.

These areas, provided with metal racks, are located as conveniently and unobtrusively as possible to building entrances. The areas are paved with asphalt and surrounded by hedge or informally arranged screen plantings. The students seem to use and appreciate them. But if the areas are not strategically located close to main routes of travel, function is lost and the bicycles are usually found next to the building entrance.

(*Part 2, dealing with lawns and plantings, will appear in the August issue.*)

WHERE ARE PRICES GOING?

Study of comparative commodity costs is valuable aid to budget planning

CHARLES W. HAYES
Director of Purchases, Emory University
Emory University, Ga.

THE IMPACT THAT SPIRALING PRICES has on our institutional operations calls for extreme caution on the part of those charged with the responsibility for disbursement of funds.

In this and preceding studies we have used the expenditures of Emory University as a basis and have correlated the figures with Bureau of Labor Statistics indexes for the area around Atlanta, Ga. McGill's Commodity Indices also have been adjusted for the periods under consideration as a means of checking the regional picture with national averages.

In the present study we have added certain other basic statistics reflecting some of the major economic patterns that are affecting the price structure. We have moved from the specific to the general—from the immediate situation of Emory University in Atlanta, as measured by exact prices paid for particular selected commodities, to a consideration of general commodity price trends and economic impacts for the nation as a whole.

The study of this problem was first attempted when I was asked to testify before a joint Congressional subcommittee of the joint committee on the economic report which held hearings in Atlanta in October 1947.

This committee was set up by Congress in order to attempt to assess (1) the extent of inflationary pressures, and (2) to determine what, if anything, could be done toward solving the problem. As with many other such committees, a great deal of information was collected, a report was written and filed—and there the matter has rested.

Probably good results were achieved, however, in helping the residents of the various regions in which hearings were held to become aware of the problem. The hearings received wide publicity and tended to focus the spotlight on the national danger. It is hoped, also, that the senators and representatives who participated in the hearings became more closely attuned to the problems of the citizen and lost a few of the blindspots caused by pressures from special interest groups from their own districts and by too close attention to distorted perspectives usually infecting those who spend much time in Washington.

It was felt in October of 1947 that three periods were significant in a consideration of prices paid for commodities by an institution of higher education. These were (1) the spring of 1941, a relatively normal period before our country had entered the war; (2) the spring of 1945, a period just before the end of the war which was characterized by a rather closely controlled national economy and an

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From a paper read before the annual convention of the National Association of Educational Buyers, Boston, May 1949.

TABLE 1—DEPARTMENT OF COMMERCE NATIONAL STATISTICS

(Note: The following selected figures, reflecting national trends as evidenced by general business indicators, are taken from "Survey of Current Business" published by the U.S. Department of Commerce and are as up to date as available information allows.)

	1941 MARCH	1945 APRIL	1947 SEPT.	1948 MARCH	1949 JAN.	1949 FEB.
GROSS NATIONAL PRODUCT.....(Billions of Dollars)	111.9	220.2	229.4	244.9	264.9	Not Avail.
PERSONAL INCOME..... do	87.9	172.1	206.2	205.7	220.8	217
Wages and Salaries..... do	55.6	119.4	121.9	126.6	136.3	135.1
Proprietors and Rental Income..... do	18.9	36.1	45.0	48.4	53.0	49.6
Cash Farm Income.....(Millions of Dollars)	716	1,545	3,060	1,932	2,553	1,783
INDUSTRIAL PRODUCTION (Adjusted for Seasonal Variations)						
ADJUSTED, COMBINED INDEX.....(1935-39=100)	152	230	187	191	191	185(March)
MANUFACTURERS..... do	156	247	192	200	198	196
Durable Manufacturers..... do	184	336	217	229	227	226
Nondurable Manufacturers..... do	133	174	172	177	174	173
Minerals..... do	126	140	153	142	151	149
Metals..... do	148	111	111	118	105	Not Avail.
PRICES RECEIVED BY FARMERS						
ALL FARM PRODUCTS.....(1909-14=100)	108	203	286	283	268	258
Crops..... do	94	204	254	262	238	Not Avail.
Food..... do	84	172	278	260	232	do
Grain..... do	78	163	252	256	236	do
Livestock..... do	122	201	315	302	295	do
EMPLOYMENT (In Thousands)						March
Armed Forces.....	1,040	12,070	1,326	1,236	1,468	1,491
Employed.....	47,160	53,650	59,569	57,329	57,414	57,647
Unemployed.....	6,380	530	1,912	2,440	2,664	3,167

TABLE 2—PRICE CHANGES IN SELECTED COMMODITIES PURCHASED BY EMORY UNIVERSITY FOR FIVE PERIODS: SPRING 1941, SPRING 1945, FALL 1947, SPRING 1948, SPRING 1949

ITEM	UNIT	UNIT PRICES SPRING 1941	UNIT PRICES SPRING 1945	UNIT PRICES FALL 1947	UNIT PRICES APRIL 1948	UNIT PRICES APRIL 1949
Potatoes, Irish, Idaho Baker No. 1	100 lb. sack	$1.40	$4.25	$7.48	$6.25	$5.25
Milk, Grade A, Pasteurized	Quart	.12	.16	.205	.23	.23
Milk, Carnation Condensed, Tall	Case/48 cans	3.30	4.28	5.60	6.37	6.00
Butter, Creamery	Lb.	.36	.45¾	.76	.90	.67
Eggs, Medium Fresh	Doz.	.33	.43	.63	.46	.47
Bacon, Cured, Sliced	Lb.	.22	.33¼	.80	.69	.57½
Beef, Rib Roast, "A" Grade	Lb.	.29	.29¼	.68	.58	.49
Microscope Slides 3x1	Gross	.70	.72	1.40	1.30	1.18
Microscopes, Bausch & Lomb, CTA-8 Binocular	Each	255.00	272.00	450.00	450.00	485.00
Alcohol, 95%, 190 Proof, tax free	Gallon	.37	.63½	1.03	1.09	.39½
Typewriter, Royal Standard	Each	70.00	100.49	129.68	129.68	129.68
Index Cards, 3x5	M	.50	.50	.81	.79	.77
Mimeograph Paper, No. 1 Sulfite 20 lb	M	.95	1.05	1.65	1.95	1.87
Nails, 16D, Common	Keg	3.35	.....	8.53	8.75	7.85
Lumber, Yellow Pine 2x4, No. 2 Common	M. bd. ft.	30.00	54.50	65.00	75.00	65.00
Pipe, Black, Standard ½"	100 ft.	4.09	4.56	6.05	6.55	7.04
Napkins, Paper, 13x13½, ¼ fold, semiembossed	M	.495	.86	1.35	1.05	.95
Toilet Tissue, 1000 Sheet Roll	Case (100 rolls)	4.60	5.64	12.25	13.50	6.60
Sheets, 72x108—140 count	Doz.	6.62	14.57	27.90	26.86	24.56
Chairs, Stra. Walnut s/glides	Each	3.75	7.35	7.70	8.50	11.15
Chairs, Tablet Arm	Each	4.50	6.85	8.95	7.75	7.98
Silver, Table, Teaspoon 5 oz. plated	Doz.	1.10	1.85	2.00	1.95	1.50
Coal, 2"-3", Nut and Slack	Ton	1.34	3.00	5.25	5.35	4.75

absence or scarcity of many items of consumers goods; (3) the autumn of 1947, a period two years after the end of the war, characterized by spiraling prices, shoddy quality of commodities and the *continued* absence or scarcity of many items of consumers goods.

Practically all federal controls, such as the War Production Board, the excess profits tax, wage controls, and O.P.A., had been blithely tossed out the window in the interest of achieving normalcy and as an antidote to the great recession that most economists freely predicted would follow immediately upon the cessation of hostilities.

I stated before the committee, and I still believe, that the Congress failed to consider adequately the following: (1) the tremendous pent-up demand for almost everything in the way of consumers goods and consumers durable goods that had worn out in four years of war; (2) the astonishing ability of our economy to reconvert quickly; (3) the contrasting slowness of war devastated European and Asiatic nations to recover with the continuing necessity for more and more foreign relief, and (4) the inflationary pressures of individual and corporate savings that were bursting the dam in this country. Thus, decisions were made to relax and to eliminate controls, and so we were off on the inflationary roller coaster.

Our study was brought up to date in the spring of 1948 and showed again increases in practically every commodity and index since the previous six months' period. Signs of weakness were appearing, however. The voices warning of deflation were increasing. The index of prices received by farmers reached a peak of 307 (1910-14=100) in January of 1948; and then in a sharp reversal, dropped 9 per cent between the middle of January and the middle of February. Many felt that this was the beginning of a sharp deflation since farm price drops have always heralded our depression cycles. There occurred, however, a recovery of farm prices lasting until July 1948 that brought prices back to within 2 per cent of the January high. A decline in farm prices began again and by December the decline from January was about 13 per cent.

ALL-TIME HIGH IN AUGUST

Other prices followed the agricultural price pattern. There were definitely signs of weakness in the first quarter, but the all-time high in both wholesale and retail price indexes was reached in August 1948.

It is probable that these developments in domestic and international fields touched off renewed expansion in the second quarter. The enactment of the European Recovery Program, the reduction in federal taxes, and the prospect of increased military expenditures induced by the cold war, all pointed toward an expansion in government contribution to business activity. Also, under the stimulus of recovering wholesale prices, earlier hesitation in granting wage increases ended as one after another of the heavy industries granted a third-round wage increase for the postwar period.

Prices consequently went up, although by the end of December 1948 prices averaged about the same as a year earlier.

Blessings, however, were coming with increasing frequency to the harassed purchasing agent. As continued production highs were achieved by industry, shortages largely evaporated. Quality factors definitely improved in most commodities, and upgrading practices largely disappeared as manufacturers again began to pay some attention to prewar concepts of quality considerations. The medium priced utility lines again reappeared, and we could stop using wrought iron pipe fittings for gas lines. Our supplier firms began mending their fences in earnest, and the dispositions of even the switchboard operators to whom we talked had improved. The shift from the long continued sellers' market to the normal buyers' market situation has at the present time practically completed its cycle.

I find myself, as I am sure you do, hard put to get any work done because of the numerous vendor representatives waiting to offer quality, price, delivery and service. It is now difficult to terminate a telephone conversation with a supplier because of his eagerness to "suggest" almost everything he carries in his line, all of which he has in stock and any of which, he assures one, will be quoted at "the right price."

Reference to the table of national statistics shown in table 1 does not

tell the entire story, although the trend is evident. You will note the decline in personal income, the lesser decline in industrial production (which could accelerate very rapidly), the marked decline in prices received by farmers, and the increase in unemployment figures.

Table 2 lists a few of the thousands of commonly used commodities required by Emory University in large quantities. Your list could be the same or different, depending upon the activities conducted by your institution and your geographical location. The figures for this random sampling of representative items from various commodity groups, for the same or equal commodities, have been taken from vouchers on file in the business office of Emory University. The figures are self-explanatory and, I think, reflect fairly the national and regional picture.

Table 4—B.L.S. Wholesale Price Indexes—Selected Groups

	MARCH 1941	MARCH 1945	AUG. 1947	FEB. 1948	FEB. 1949
All Commodities	100	129.2	188.5	197.2	193.9
Foods	100	139.1	229.1	229.3	214.8
Cotton Goods	100	147.8	245.6	264.6	227.9
Building Materials	100	117.7	180.6	193.5	202.4
Chemicals	100	111.5	136.8	147.3	138.1
Drugs	100	109.9	140.6	158.7	153.2
Furniture	100	122.4	141.0	168.6	171.8

The peak for "all commodities" was reached in August 1948, with the figure 208.0 on the March 1941 base point

Table 5—McGill Weekly Commodity Indices—Feb. 21, 1941=100

	FEB. 21 1941	APRIL 13 1945	Aug. 15 1947	APRIL 9 1948	APRIL 8 1949
COMMODITIES	100	145.0	224.0	231.4	213.5
Industrial	100	126.9	194.0	211.8	202.0
Agricultural	100	171.8	251.8	261.5	229.0
Building Materials	100	122.1	196.3	218.9	209.5
Chemicals	100	113 0	134.5	136.1	119.0
Fuels	100	125.2	194.5	225.5	215.8
Nonferrous Metals	100	103.3	173.5	187.0	199.0
Ferrous Metals	100	102.1	138.5	145.7	126.5
Paint Materials	100	158.0	244.5	250.5	242.1
Paper and Pulp	100	117.3	174.3	189.6	186.2
Textiles, Coarse	100	134.0	275.0	251.3	251.3

The figures above were taken from the "McGill Weekly Commodity Indices Summary" prepared for the National Association of Purchasing Agents and adjusted mathematically so as to change the base period from 1926 to Feb. 21, 1941.

CORROBORATIVE DATA

In order to check the validity of the figures assembled from Emory's files, we thought it wise to use figures from other sources. *The Bureau of Labor Statistics, Consumers Price Indexes* are based on 1935-39 as a "normal period." *The B.L.S., Wholesale Price Indexes* are based on 1926—100.

Since conditions in colleges, and commodities used, now are much different from what they were in 1926 or 1935-39, we felt that the spring of 1941 would provide more valid figures. Consequently, we converted B.L.S. statistics as well as *McGill's Commodity Indices* to the spring of 1941 base point.

Presented below are "Consumer Price Indexes" for Atlanta for the five periods adjusted so as to indicate percentage increases from March 1941 and brought as nearly up to date as the available figures allow.

The figures presented do not tell the entire story. It is a well known fact that finished goods inventories in the hands of manufacturers, wholesalers and retailers are at a high level. I quote from the February 1949 issue of *Survey of Current Business* issued by the U.S. Department of Commerce:

"During 1948, manufacturers, wholesalers and retailers continued to expand their investment in inventories. The increase in book value amounted to 6.0 billion dollars, compared with 8.1 billion in the previous year and 10.7 billion in 1946.

"When allowance is made for the part of the price rise attributable to increased replacement charges and price appreciation, it is estimated that the volume of goods added to business inventories in 1948 amounted to 2.7 billion dollars, slightly less than the 1947 accumulation and well under that in 1946."

Depending upon one's point of view, it would be relatively easy to get optimistic regarding the anticipated price level, or pessimistic, fearing a severe depression. The period of the past few years has been characterized as the "gloomiest boom" the nation has ever experienced. The *New York Journal of Commerce* for April 14, 1949, carried the following warning headlines: "Act Now to Save Free Economy, Wool Unit Told"—"'Voice' in Industry Labor's Alternative to Wage Rises"—"Steel Quotas Cut as Shortage Eases"—"Business Loans in Record Slump" — "Truman Council Reports Further Gradual Decline in General Business Level" — "Unions Want Say in Plans for Layoffs" — "Continued Lack of Mill Buying Brings Further Easing in Scrap Steel Prices." (The price for No. 1 melting scrap is now $18 per ton in New York as contrasted to $42 per ton a few months ago.)

Such headlines are sufficient to make the price conscious purchasing agent heave a sigh of relief and to cause the manufacturer and jobber fearfully to draw in their horns. Just as the continued boom last summer was largely caused by psychological factors affecting the daily decisions of the business executive, so may we get into a psychological attitude of fear that could cause business to contract too sharply.

It is likely that we shall not see a repetition of the events following the

Table 3—B.L.S. Consumer Price Indexes—Selected Groups

	MARCH 1941	MARCH 1945	JUNE 1947	FEB. 1948	FEB 1949
All Items	100	128.1	158.3	168.4	169.2
Food	100	141.6	199.6	212.6	201.3
Apparel	100	135.9	174.	191.8	195.2
Rent	100	102.1	103.1	111.7	117.9
Fuel, Electricity, Ice	100	112.5	124.8	136.3	146.8
House Furnishings	100	141.3	186.5	194.8	200.0
Miscellaneous	100	130.1	144.2	149.1	156.0

The peak for "all items" was reached in August 1948, with the figure 175.3 based on the March 1941 base point.

1929 debacle. The farm support program will prevent the bottom falling out of farm prices. Our foreign commitments, as evidenced by the European Recovery Program and the Atlantic Pact, will continue to stimulate our domestic economy through continued heavy federal expenditures. Above all, we must not forget the "cold war," which periodically rises in temperature, to realize that completely free competitive forces are not yet at work and are not likely to be for some time to come.

It would seem that now, as last year, is a time for caution.

Major projects that can be deferred might well wait. There doubtless is still a great deal of inflationary water in our total economy. As it is squeezed out, it will have its inevitable effect on prices.

The break-even points for operating practically all businesses, including universities, have advanced sharply. As times get harder the less efficient will likely fall by the wayside. It is past time for us to get lined up with our most efficient suppliers and to get our own management houses in order. Funds for educational institutions, whether from taxes or private sources, are harder to procure in times of depressed economic activity, whether we call it a "disinflation," a "recession," a "depression," or a "panic."

PROGRAM OF 1949 FOOD SERVICE INSTITUTE

Delegates planning to attend the 1949 College Food Service Institute July 25-27 in Chicago, under the joint sponsorship of Northwestern University and College and University Business, should send registration checks immediately. Enrollment is limited to 125 delegates, with a maximum of two registrants from an institution. The tuition fee is $15, and checks should be made payable to Food Service Institute and forwarded to Willard J. Buntain, director of dormitories, Northwestern University, Evanston, Ill.

Since registrations are handled on the basis of "first received, first accepted," the suggestion is made here for immediate action if a delegate is planning to attend. Harold W. Herman, managing editor of College and University Business, will make hotel reservations for delegates at the Hotel Knickerbocker, Chicago, where all Food Service Institute sessions will be held.

Delegates should advise Mr. Herman as to date and time of arrival in Chicago so that hotel accommodations will be ready for occupancy upon arrival.

MONDAY, JULY 25

Administration

9:00—Registration

9:30—Opening Remarks

9:35—Purpose of Food Service Institute, J. W. Cannon Jr., publishing director, College and University Business.

9:45—The Business Manager Looks at Food Service, Holger B. Bentsen, business officer, George Williams College; president, National Association of Educational Buyers.

10:15—Discussion

10:30—Better Food Cost Control, Wendell Morgan, manager, service enterprises, Howard University.

11:15—Discussion

11:45—Adjournment for luncheon.

Personnel

2:00—Supervisory Training, Jerome A. Gottschalk, manager, supervisory development, Hotpoint, Inc.

2:30—Discussion

2:45—Better Personnel Records, Norris Wentworth, assistant director, halls of residence, Indiana University.

3:15—Discussion

3:30—Utilizing Student Labor, Christine Ricker, director, university dining halls, Stanford University.

4:00—Discussion

4:30—Reception and Tea, Abbott Hall, downtown campus, Northwestern University.

TUESDAY, JULY 26

Layout and Maintenance

9:00—Designing Facilities to Control Costs, Mildred Baker, director of food service, Pennsylvania State College.

9:30—Designing Facilities to Control Costs, Robert Herron, manager, food stores, Michigan State College.

10:00—Discussion

10:20—Color, Decoration and Lighting in College Food Service, George Horner, architect, State University of Iowa.

10:45—Discussion

11:00—Better Housekeeping Saves Money, Lee Burns, director of residence halls, University of Wisconsin.

11:45—Discussion

12:15—Adjournment for luncheon.

Operational Technics

2:00—Planning for Special or Emergency Events, Robert Summers, director of food service, Middlebury College.

2:30—Discussion

2:45—Our Experience With Plastic Dishes, Harry Stewart, director of dining halls, North Carolina State College.

3:15—Discussion

3:30—Food Service on a Limited Budget, Sister Mary Mildred Ann Leone, dietitian, Clarke College.

4:00—Discussion

4:30—Adjournment

WEDNESDAY, JULY 27

Problem Potpourri

9:00—Cash Control, R. E. Vollriede, secretary, Continental Casualty Co.

9:20—Portion Control From a Purchasing Viewpoint, D. W. Chapman, assistant purchasing agent, Purdue University.

9:40—Snack Bars and Fountain Service, Thelma Thompson, director, student union commons, University of Kentucky.

10:00—Allocating Administrative Costs, Nellie Gleason, director of foods, Grinnell College.

10:20—Labor Saving Devices and Technics, United Air Lines.

10:40—Discussion Forum.

12:15—Luncheon at Jacques.

Procurement and Preparation

2:00—Frozen Foods—Their Purchase, Storage and Use, Col. Paul Logan, director of food and equipment research, National Restaurant Association.

2:45—Discussion

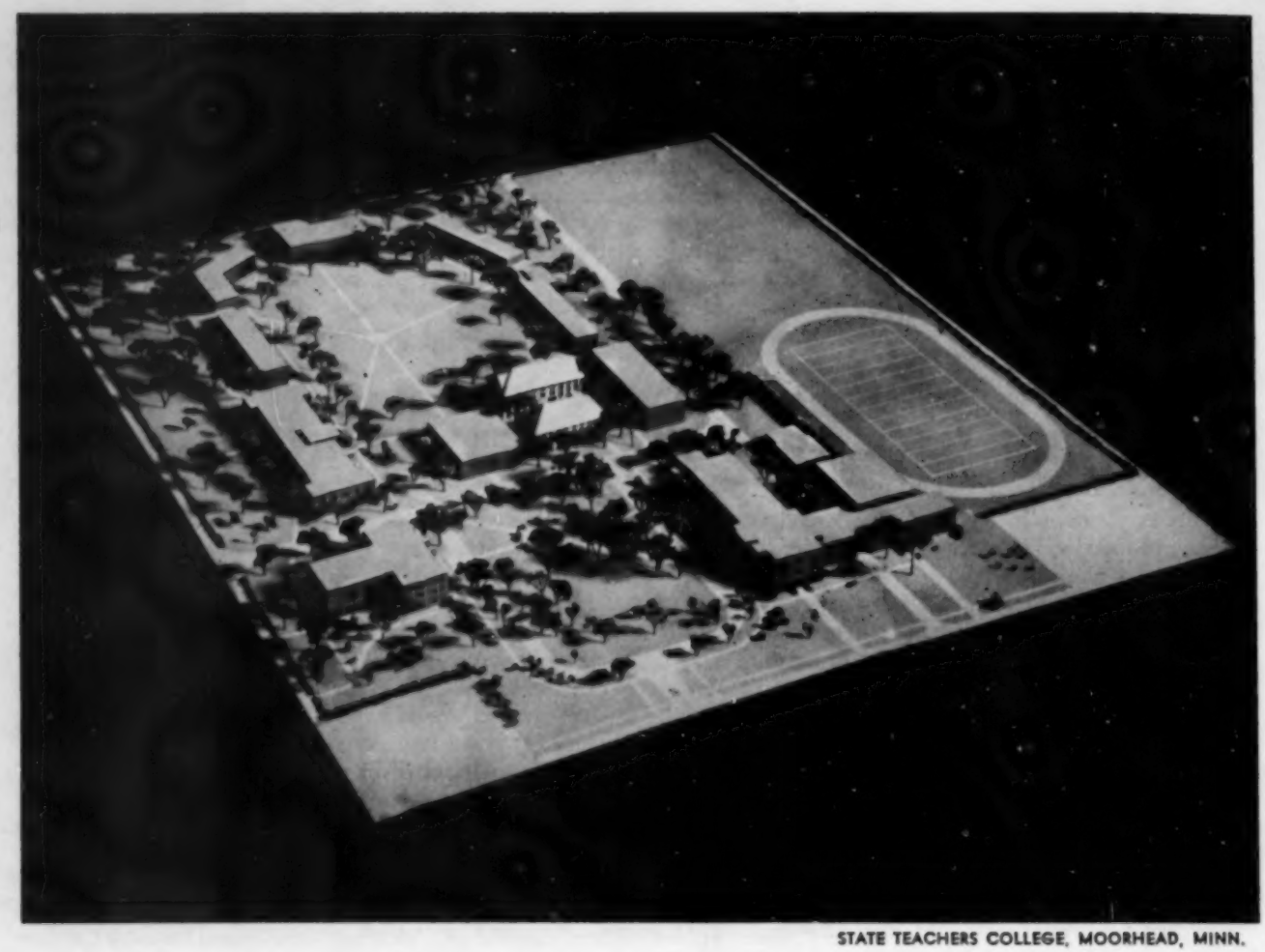
3:00—Buying Meat—Carcass, or Fabricated Cut? J. McGinnis, product engineering, Pfaelzer Brothers.

3:30—Discussion

3:45—Every Plate a Bouquet, Vivian A. Reading, supervisor of food service, Abbott Hall, Northwestern University.

4:10—Discussion

4:30—Adjournment



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WILLIAM M. INGEMANN
Architect
St. Paul

PERHAPS IT IS A TRACE OF THE juvenile in each of us that gives architectural models their strong appeal. Adults and children alike are fascinated by miniatures whether they be model trains, figurines or models of buildings.

GREAT VALUE TO ARCHITECT

Aside from this pleasant appeal, models of buildings and, particularly, of groups of buildings are of great value to the architect. By no other means can arrangement, scale and space relationship be studied so well and presented so effectively. This is true whether the campus buildings are designed in one of the traditional styles, or if they are of contemporary design. It is doubly so if, as is so often the case today, a transition from traditional to contemporary forms is being contemplated. For these reasons we, as well as most other architects having much to do with campus planning, have used models widely in the study of existing campuses and in the presentation of plans for their improvement.

A second advantage in the use of campus models, and the one of particular interest to college administrators, is their value from the standpoint of public relations and fund raising potentialities. Campus models of this type are of great help to college administrators in attempting to persuade college boards, prospective donors or legislators of the desirability of certain projects that the administration needs or plans to put forward in terms of new buildings on the college campus.

HELPS VISUALIZE PROJECT

Photographs of models can be made so as to be almost indiscernible from aerial photographs of the completed campus. Display of these, and of the model itself, to college boards, student bodies, alumni groups, and the public generally is of inestimable value in "selling" a project. They are of great use in helping the average layman to visualize a desired project.

In general, there are three types of models to consider. First, there is the

clay or plastecene model, which is the easiest to construct. These models are useful to the architect in studying mass, scale, shape of buildings, and space relationship. They have the advantage of being easily changed but are of little value to the layman as they do not show contrasts in color or detail of the buildings.

SHOULD BE MEANS OF STUDY

At the very other extreme are the carefully made permanent models that reproduce every detail of the completed structures. These have the disadvantages of being expensive to make, too heavy to transport, and difficult to change. This last named is a serious disadvantage because models, properly used, should always be a means of study and should encourage and facilitate change rather than stand in the way of it.

Between these two extremes lies the type of models illustrated on these pages. They are easily made, of cardboard or balsa wood, and sufficient detail can be formed or drawn on them to give the viewer a clear picture of the finished buildings. Actual colors are reproduced as closely as possible; green fluff is applied to simulate grass lawns; dried weeds or sponge rubber is used for trees, and walks or driveways are painted on to give the whole model an appearance as nearly natural as possible.

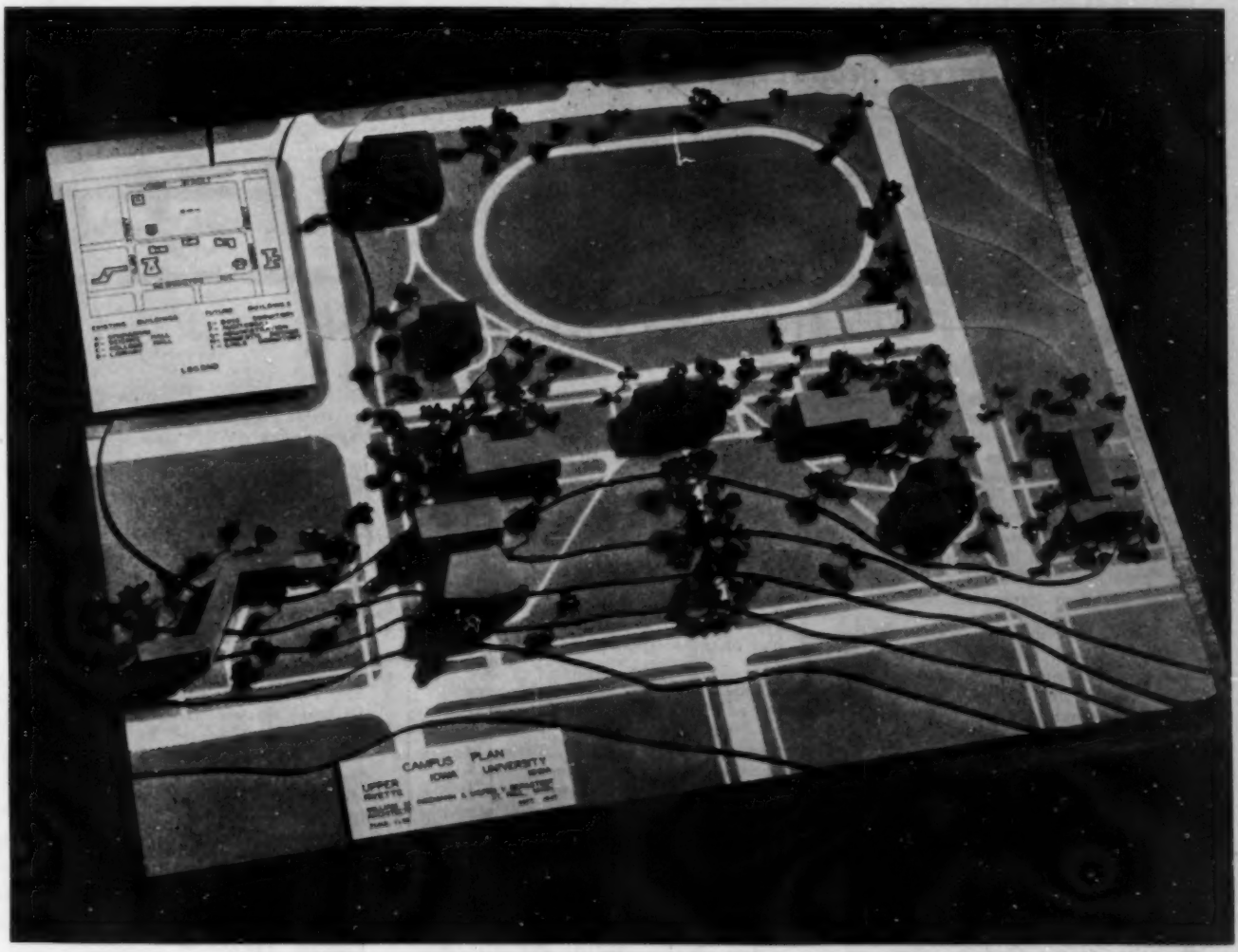
GIVES MODEL NATURAL LOOK

When the topography of a campus is very irregular, a base is usually built up of successive layers of cardboard cut to fit the various contour lines of the site and of a thickness to correspond in scale with the intervals used on a topographic survey. These intervals can be filled in to give the model a more natural look, but generally they are left exposed to emphasize the irregularity of a site, as illustrated below in the model of the campus of Upper Iowa University which is located at Fayette.

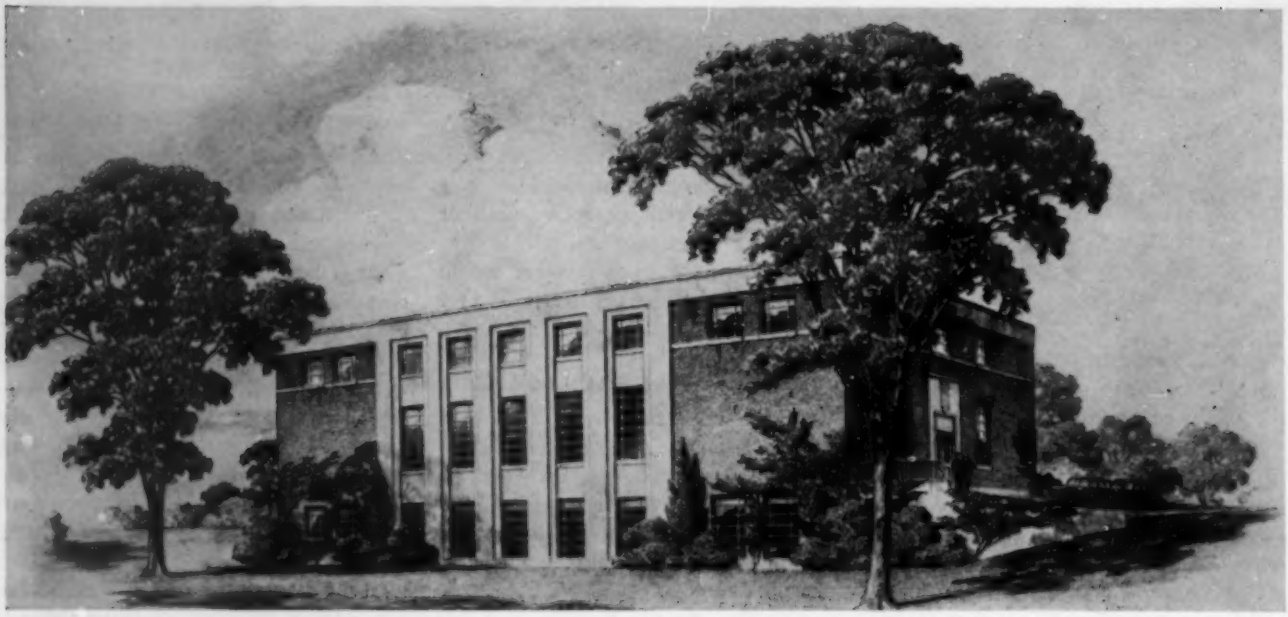
MODELS COST LESS THAN $300

As a guide in the matter of cost, it might be interesting to point out that each of the models illustrated was constructed at a cost of less than $300. Each is built at a scale that makes it possible for the model to fit neatly into a plywood carrying case so that it can be easily transported; the total weight of the model and case is usually less than 20 pounds. When changes are needed to meet different requirements or conditions they can be easily made, and it has been our experience that, over a period of years, changes are certain to be needed.

The college planner will find the expenditure of time and effort for the making of models well worth while, and college officials and committees most appreciative of the effort.



Model of the Upper Iowa University campus, showing existing buildings and future buildnigs, consisting of a boys' residence hall, a girls' residence hall, an auditorium, administration building, and domestic science building.



DAIRY BUILDING *at the University of Vermont*

serves production and manufacturing needs of entire state

ALFRED T. GRANGER ASSOCIATES
Architects and Engineers
Hanover, N.H.

DETAILS OF CONSTRUCTION

GENERAL DATA: Purpose of dairy building, serving entire state of Vermont, is to provide facilities for instruction and research on all phases of dairying, including both production and manufacturing. Provision will also be made to house dairy extension department and to provide facilities for processing milk products from dairy farm. Number of occupants, approximately 25.

CONSTRUCTION: Exterior walls, cinder block faced with brick on outside; cast stone trim around entrances and windows. Floors, steel joists with wire lath reinforced concrete slab. Interior partitions, cinder block. Windows, steel sash of architectural projected type. Stairways, steel. Interior trim and door frames, metal with slab doors of birch veneer.

FLOORING: Floors in pasteurizing, washing, receiving, dairy manufacturing rooms, cold storage room, and cheese room, 1 inch Emery aggregate finish; asphalt tile in all other rooms excepting sales room. Certain rooms on ground floor, granolithic finish; sales room, terrazzo.

WALLS: Most interior walls, cinder block painted. Pasteurizing, washing, receiving and manufacturing rooms, structural glazed tile from floor to ceiling.

CEILINGS: Ceilings throughout, ½ inch insulation board of ivory finish except in pasteurizing, receiving, washing, dairy manufacturing, and cheese rooms, where metal lath and plaster are used. Ceilings of shop and boiler room have 1 inch of cement plaster.

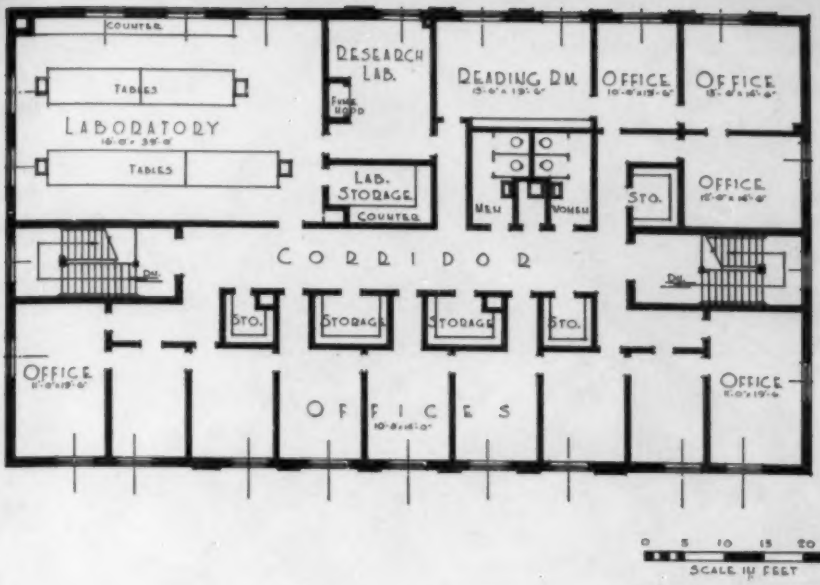
HEATING: Heating system, low pressure vented type supplied from a steam-pack oil fired steam generator factory assembled with 6 inch steam nozzle. Manufacturing and pasteurizing rooms, supplied fresh air and heated by ventilating units. All other rooms, heated with direct radiation from exposed fine-tube wall hung radiators. Thermostats in each room control direct radiators and ventilating units.

SPECIAL FEATURES: Dairy chemistry laboratory accommodates 36 students; dairy bar with 13 stools and sales window to outside area.

LIGHTING: Fluorescent lighting in all principal rooms.

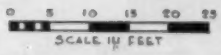
REFRIGERATION: Refrigeration provided for one ice cream hardening room 11 by 25 feet to maintain temperature of —20° F. Cooling of this room is accomplished by use of hollow plate shelves and hollow plate units on ceiling. Refrigerant, ammonia. Adjoining two rooms, each 10 by 8½ feet, one an anteroom and the other a cold storage room for unfrozen products. Temperature of these two rooms maintained at 35° F.; cooling done by blowers. Refrigerant, Freon. Milk storage room 18 by 14½ feet cooled by blowers. Refrigerant, Freon. Chilled water system for cooling milk, cream and ice cream mix Freon operated of the ice building type.

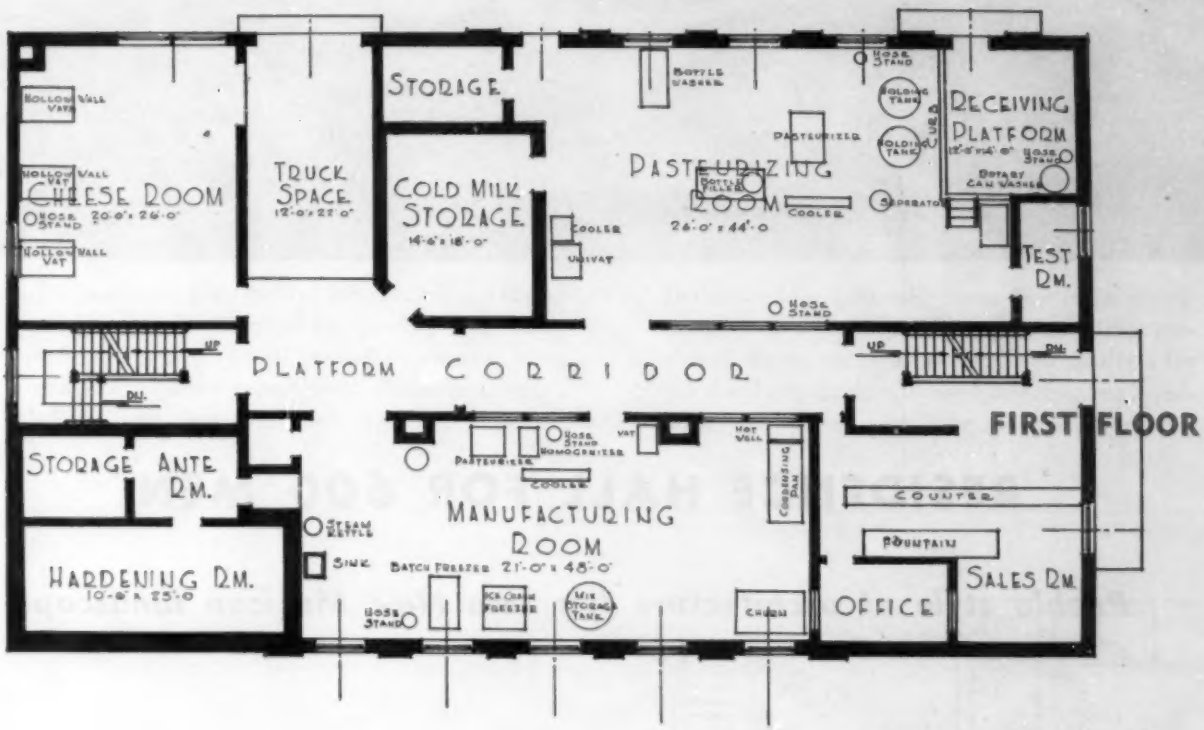
COSTS: General contract for building, $207,160, which includes heating, plumbing and electric. Structure contains 212,000 cubic feet, making cost per cubic foot, $0.97. In addition to general contract, $20,000 is approximate cost for purchase and installation of refrigeration equipment.



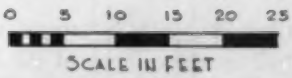
SECOND FLOOR

Offices and laboratories occupy most of the second floor, but there is also plenty of storage space.



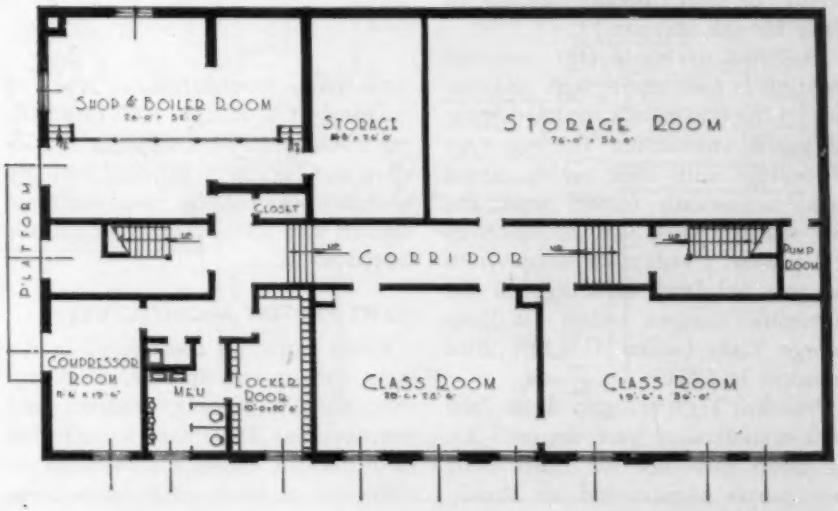


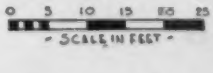
FIRST FLOOR



GROUND FLOOR

The only classrooms in the building are the two large ones on the ground floor. The first floor houses the cheese, hardening, manufacturing and the pasteurizing rooms.





RESIDENCE HALL FOR 600 MEN

Pueblo style of architecture fits into New Mexican landscape

G. WARD FENLEY
Director, Department of Information
University of New Mexico

THE NEW $1,500,000 MEN'S RESIdence hall on the campus of the University of New Mexico should be ready for fall occupancy.

Designed to house 600 men, the building is four stories high and carries on the university's modified Spanish pueblo architecture. The vega type of ceilings with their native carved wood, acoustically treated walls, the five walled courts, and 20 balconies will present a radical departure from the two red brick buildings on the university campus when William George Tight became U.N.M.'s third president in 1901.

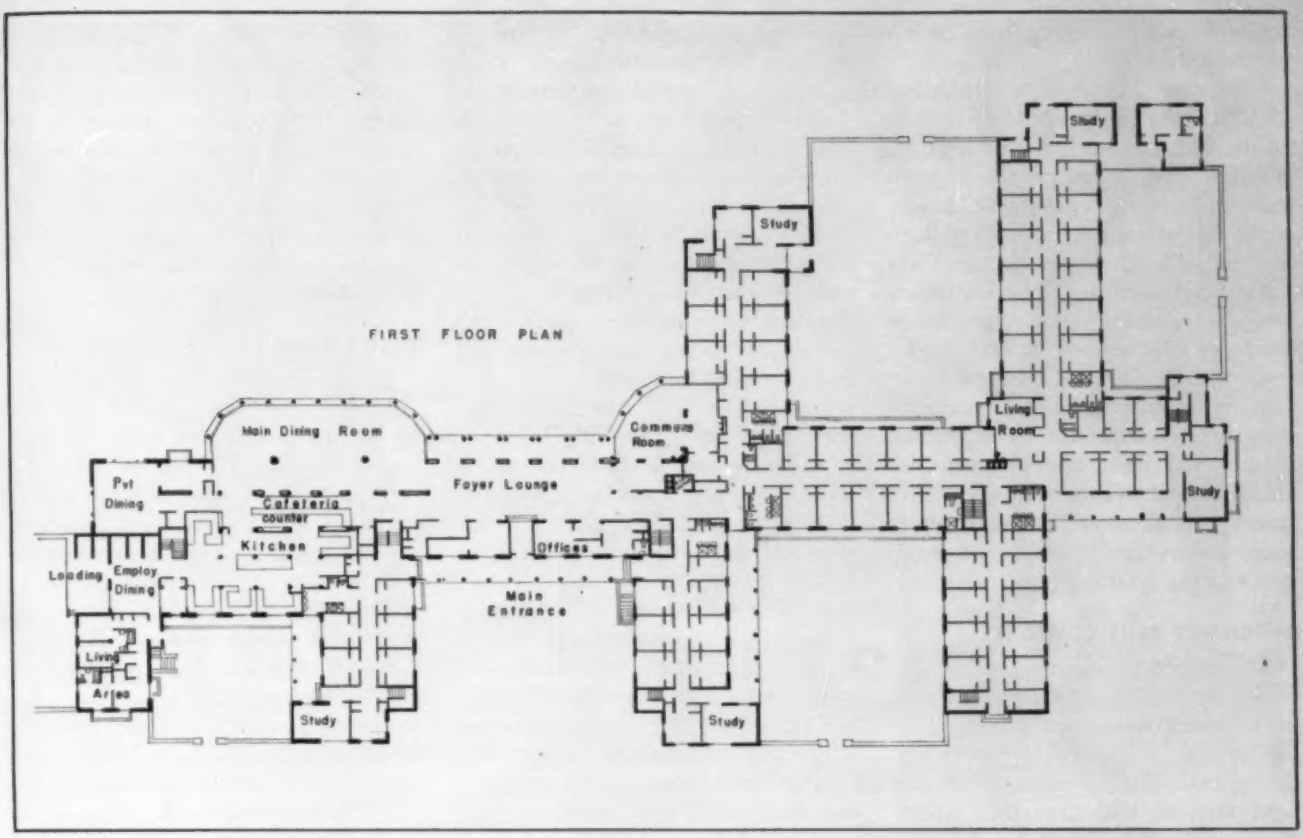
President Tight recognized that "red brick schoolhouses were designed for the green East—not for desert lands with purple sunsets and an already distinctive Spanish-Indian type of building." Old Hodgin Hall, originally red brick, underwent vigorous remodeling and became a stuccoed building with vegas protruding from dozens of alcoves, with added porticos and native carved wood.

MANY PROTEST ARCHITECTURE

Other buildings constructed in the same style sprang up amid loud protests from professors, students and townspeople. Dissenters argued that "a distinctive, native, Southwestern architecture made about as much sense as clothing professors and students in Indian shawls and breech cloths."

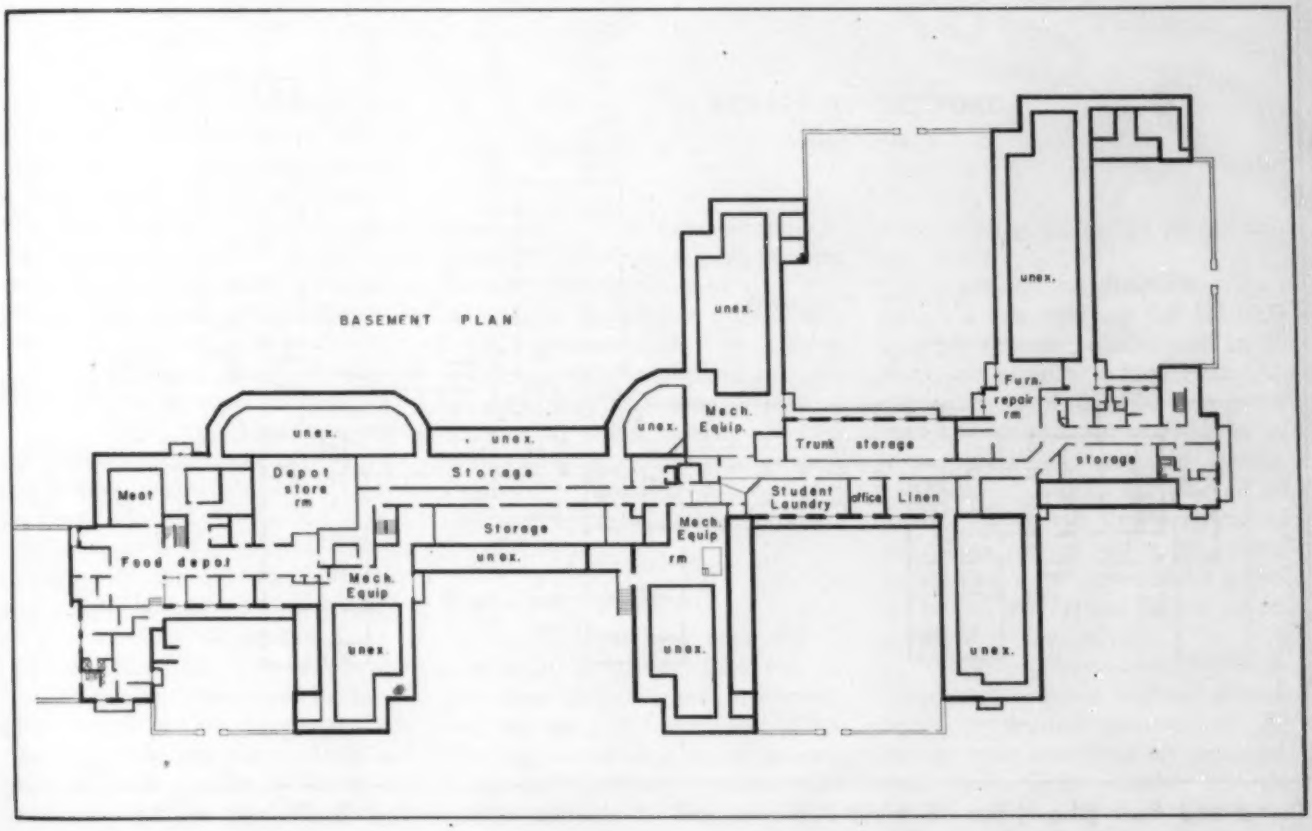
President Tight lost his job for sponsoring so radical a change in architecture, and it was not until 1927, long after his regime as executive officer, that the university regents officially adopted the pueblo style for its program. At that time, with appropriate dedication ceremonies, the governors of all Indian pueblos were invited to celebrate a style of architecture "for which there were no apologies."

At present there are 35 permanent buildings on the University of New Mexico campus, all constructed in the same general style. Five buildings are now under construction, to be financed by $2,200,000 worth of revenue bonds



The basement plan (below) includes a deep freeze refrigerator for vegetables, poultry and meat, several storage rooms, students' laundry, trunk room, a furniture repair shop, the housekeeper's office, and living quarters for the engineer.

The first floor (above) houses the main dining room, two private dining areas, and the employes' dining room, as well as living quarters for the dietitians, cooks and head director, one quadruple, 57 triple, and four double bedrooms.



to be retired by income from rentals received therefrom.

The 40 temporary army surplus barracks that dot the campus add nothing to the architectural appearance of the 400 acre campus but provide urgently needed housing, classrooms, laboratories and offices for the 5000 students and 300 full-time professors.

Located east of the university library and the president's home, the men's residence hall, one of three halls for men, will be one of the largest buildings on campus. Besides a mammoth deep freeze refrigerator for vegetables, poultry and meat, the basement includes several storage rooms, students' laundry, trunk room, furniture repair shop, housekeeper's office, and engineer's living quarters.

EFFICIENCY PLUS COMFORT

The first floor, constructed for efficiency as well as comfort, has one main dining room, two private spots for serving meals, and one employes' dining hall. The dietitians, cooks and head director will have their apartments and offices close beside their work on the ground floor. In addition to the regular parlor, lounge, commons, foyer, living room, and general office, there is a series of five study rooms. Students' living quarters comprise, for the first floor section, a total of one quadruple, 57 triples, and four doubles.

The second floor has 76 triple bedrooms and 13 doubles. This floor also contains two monitors' rooms and two living rooms.

The third floor, designed primarily for bedrooms, contains 51 triples and eight doubles. Since this floor is smaller than the two lower floors, there is only one living room; it has a sun deck and a series of balconies.

GAME ROOM ON FOURTH FLOOR

The major part of the fourth floor is taken up by a spacious game room for pool, table tennis, ping-pong, dominoes and similar activities, and a sun deck.

Exterior walls, made of fire resistant material, are constructed of concrete, brick, pumice blocks or tile but will present a stuccoed appearance in keeping with other campus buildings. Most of the lighting will be of the fluorescent type. Three electric elevators, one dumbwaiter and one service elevator from kitchen to food storage will facilitate interfloor travel.

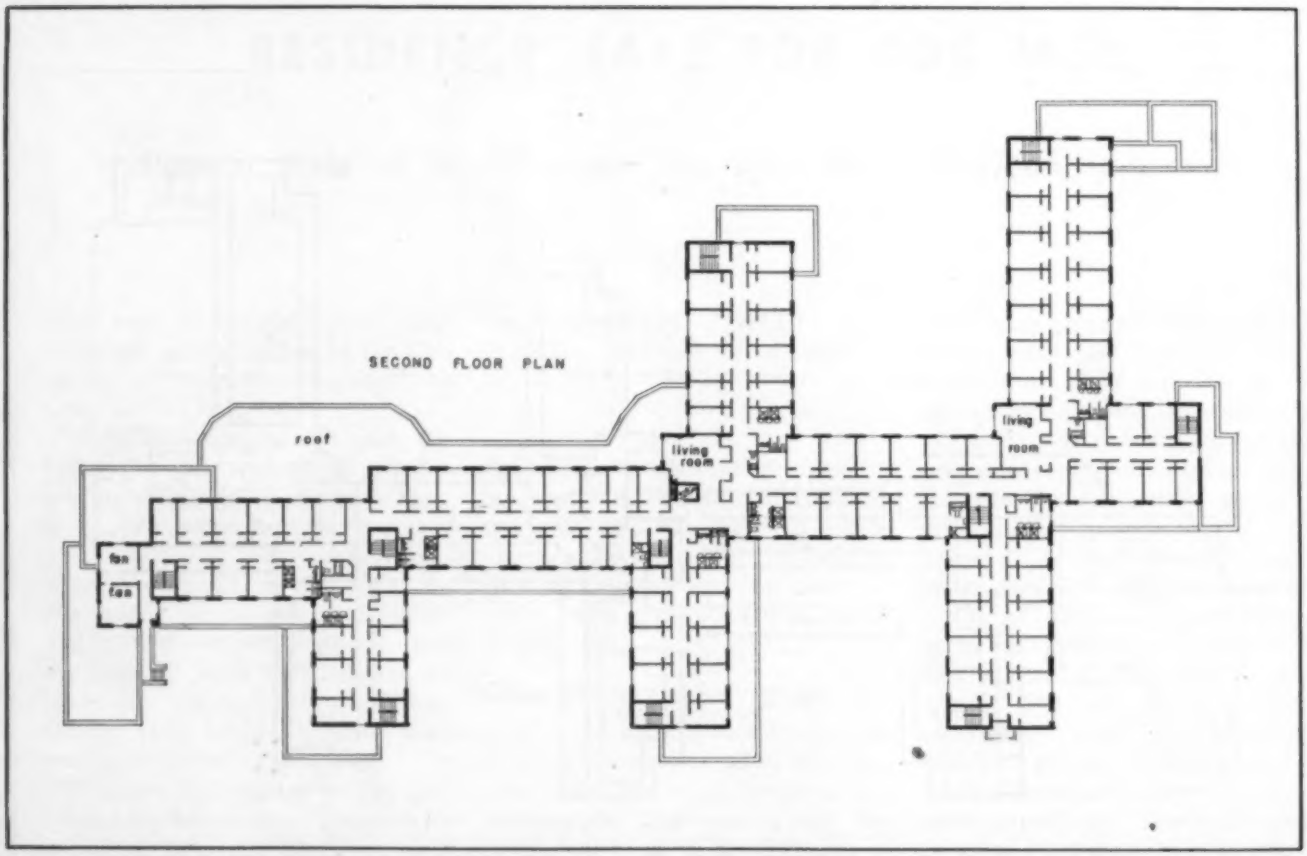
The foyer, main dining room, commons and living rooms call for carved woodwork and acoustical treatment on ceilings, but there will also be much plaster used. Dining rooms and kitchens will be air conditioned. A student living on the fourth floor can be reached immediately through a buzzer system from the office to each bedroom. The entire building will be heated from the central heating plant now under construction near the college of engineering.

OTHER FEATURES

Other special features are thin slab flooring with some asphalt tile for bedrooms, quarry tile for bathrooms and washrooms, cement and cork for refrigerators, and flagstones for patios. Bedroom walls, made of concrete, pumice blocks and brick, in general, will be painted with colors yet to be chosen. The large kitchen refrigerator will be of walk-in size and will have a deep freeze for meat, poultry and vegetables.

Following the latest plans for university residential halls, the new structure is placed near recreational facilities such as tennis courts, gymnasium, stadium, golf course, and baseball diamond.

A senior took one look at the blueprints and remarked: "I was born just four years too soon."



The second floor (above) has 76 triple bedrooms and 13 doubles, two monitors' rooms and two living rooms.

ELMIRA COLLEGE APARTMENTS

Elmira College builds 16 new FACULTY APARTMENTS

ROBERT T. BICKFORD
Architect, Elmira, N.Y.

ELMIRA COLLEGE, LOCATED IN Elmira, N.Y., a city with a serious housing shortage, completed a faculty housing project last fall at a cost of $216,000. Such an expenditure by a residence college for 400 women students could not have been undertaken during these times of high construction costs without serious planning.

The trustees and administration decided to make the expenditure for two reasons. First, the immediate need for faculty housing could be met only by making available college owned property. Second, Elmira has always fulfilled an ideal of most small colleges of having its administration and faculty live either on campus or within a short distance of the campus.

In the past, college owned faculty housing was supplemented by rental properties in the neighborhood. Such rental property was not available and probably will not be available for some years to come. With the College Apartments, which were occupied in September, approximately 90 per cent of the college administration and faculty live on campus or within a five or 10 minute walk of the campus.

The apartments, therefore, meet the two objectives that determined their construction: they provide attractive living accommodations to potential members of the college staff, and they contribute to the social and educational life of the institution.

HOW MONEY WAS SPENT

The $216,000 was expended in three main categories: land and improvement, $27,500; general construction, including architect's fees, $183,500; appliances, such as refrigerators, ranges and automatic washers which were installed in the basement of the main building for use by all the tenants, $5000.

The project was financed in two parts. A first mortgage for $130,000 at 4 per cent, to be amortized in 20 years, was given to a local bank. An appropriation of $80,000 was made from college endowment funds as an investment at 2½ per cent interest. Six thousand dollars was charged off to the cost of land already owned by the college and devoted to the project. At the end of the amortization period, the project will become part of the endowment of the college.

An operating budget has been established that includes utilities, maintenance, repair and amortization. Although rents have been set at a moderate figure, it is probable that the project will slightly more than break

even. Assessment is based upon another apartment unit of similar size in the city. Since leases are let for periods of one year, assessment can be determined from the number of nonfaculty residents in ratio to faculty residents. This year, for example, half the tenants were noncollege personnel.

READILY ADAPTABLE

The buildings are situated on a tract of irregular shape, roughly 300 by 340 feet. Planned primarily as faculty residences, the project can be readily adapted for student occupancy and, with slight changes, used to increase teaching facilities or office space, if required.

Each of the four buildings accommodates two families on each floor, or a total of four apartments per building, making 16 in all. Half of these have two bedrooms, and the remaining apartments have one bedroom.

The site arrangement takes advantage of the broad sweep of the college campus to the north and to the east. Three of the units are grouped to form the sides of a court facing to the east and fronting on College Avenue, a broad and quiet street.

The center unit of the three is set at a greater distance above the ground than are the others. With its higher level and massive chimneys at the ends, this building gives emphasis to the group; the added height also affords a pleasant well lighted basement for a large laundry for the tenants, as well as for service and boiler rooms and coal storage.

Exteriors are of sand mold brick burned to soft rose tints, in a blend especially prepared and sorted for this project. The interior structural members are of both steel and wood thoroughly fire-stopped and further protected with a type of plaster officially recognized as an effective fire barrier when used over metal lath.

In the hallways the floors are of asphalt tile, while those in the apartments are prefinished oak. For kitchens and bathrooms two patterns of green linoleum have been used in all apartments.

The interior walls and the ceilings have smooth plaster finish except over the bathtubs, where a matte glaze cushion tile of an aqua tint is used. Painted finish has been applied to the walls and woodwork throughout.

Except in a few rooms in which certain colors were requested by the prospective tenants, a general scheme was followed, using cool tints in the more sunny exposures and warmer ones elsewhere. Five colors prevail.

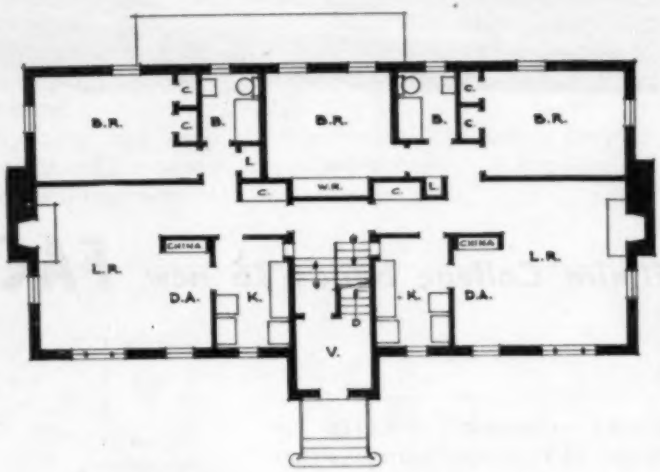
Heat is provided by circulated hot water through radiators. Coal stokers have automatic controls for each building.

Each kitchen has a refrigerator and an electric stove. In the basement of the No. 1 unit a separate enclosed storage space is assigned to each apartment.

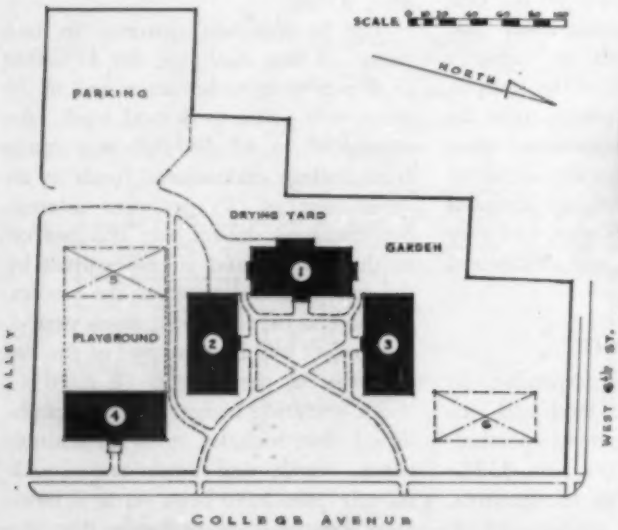
The development has adequate space around the buildings, making possible a large parking place, service yard, and drying space, in addition to a secluded garden area at the rear that adjoins the broad sweeping lawns leading to the street and the campus. There also is enough space on which to erect two additional units without interfering with the general scheme.

The buildings have been placed to fit in among the handsome old trees that add so much to the mellow appearance of the group. It is hard to believe that the project was completed within the last two years.

Each floor has two apartments, one with two bedrooms, and the other with one.



First floor plan; second floor plan is similar.



Plot plan of faculty housing project.

BASEMENT PLAN

A chat with the Office of Education's

GEORGE E. VAN DYKE

New specialist for college business management is George E. Van Dyke.

FOR YEARS IT HAS BEEN DIFFICULT for college business managers to get help or guidance from the United States Office of Education (now the Office of Education, Federal Security Agency). The data available were largely academic in nature and did not provide the guideposts needed by the harried business administrator.

Within recent weeks George E. Van Dyke, former treasurer of Syracuse University, has been appointed specialist for college business management on the staff of the Office of Education, so at last college business officers have one of their own in the official family. A brief visit with him by a member of the staff of COLLEGE AND UNIVERSITY BUSINESS reveals an earnest desire on Mr. Van Dyke's part to be of maximum assistance.

"We shall attempt to report on business administrative practice in the field but shall not 'tell' institutions what they must do," Mr. Van Dyke declared. "We are going to be careful that we don't issue 'instructions' as to what should be minimum standards of business performance. One major objective is the collecting of useful information, a service that has not been available to college business officers."

To a large extent, Mr. Van Dyke asserted, the work of his office will be determined by the field itself. He will find it helpful if he receives from a group of institutions or from one of the regional or national business officer groups requests for specific types of research and service.

For example, a group might suggest a study of food costs and accounting in colleges and universities so uniform accounting would make possible intelligent comparisons of operating costs. "At the present time," Mr. Van Dyke commented, "there are nearly as many food cost control systems as there are institutions."

Is it possible for a college or university to arrange for Mr. Van Dyke's services as a consultant to study its business administrative procedures? Yes, says Mr. Van Dyke.

Requests for consulting service should be placed with Dr. John Dale Russell, director of the division of higher education, Office of Education. Decision then would be made as to the availability of consultative service. If approved, the local institution would pay travel expenses and the living costs of the consultant while on campus. No additional charges for professional services would be made.

Study of college finances has been a long-time interest of George E. Van Dyke. In August 1935 he became the first director of the Financial Advisory Service of the American Council on Education. Prior to that he had served as technical secretary of the National Committee on Standard Reports of Institutions of Higher Education. Before going to Syracuse University as treasurer he had been secretary-treasurer of Case Institute of Technology.

During the six months preceding his appointment to the Office of Education, Mr. Van Dyke served as consultant in the Civilian Information and Education Division of the Army of Occupation's educational program in Japan.

VIEWS ON FEDERAL AID

When queried on the subject, Mr. Van Dyke asserted that federal aid is not the threat to the independence of private institutions of higher education that many critics have implied.

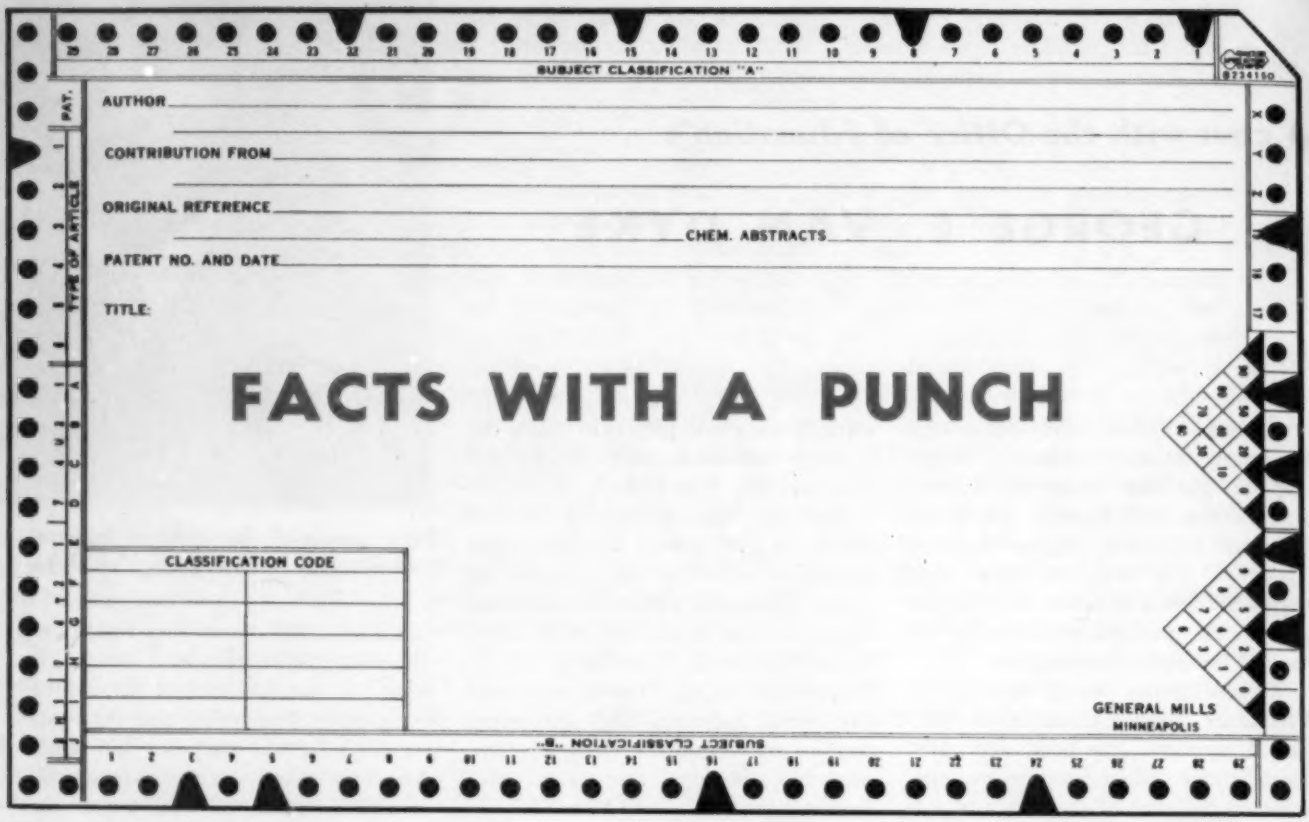
"The program for federal aid could develop along several lines, and the type of plan followed and the actual provisions of any laws enacted will determine the extent of federal control. I believe there has not been too much dictation to colleges and universities receiving federal grants through the Smith-Hughes Act.

"It is true that there are requirements on accounting and on reports concerning the use of the funds, but there is little restriction, I believe, in regard to the activities of the institutions, other than seeing that the funds are used for the purposes for which they were given—a not unreasonable provision. Most of the institutions receiving these grants do not feel they have lost their independence or have given up much local control.

"One plan of aid at the higher level might provide help for young people of scholastic ability who otherwise would be prevented from attending college because of financial need. This would be a plan to aid students, not institutions. Another program might provide aid for expanding plant facilities to meet the needs of large student enrollments and for replacing temporary buildings. Such plan might provide outright grants for educational plants and loans for housing or income producing facilities.

"If the National Science Foundation is established, some uniformity should develop in the administration of research programs and graduate scholarship and aid programs, and some of the lack of uniformity that exists among the several federal agencies now spending money for such work could be eliminated."

College business officers can expect a friendly, quiet and competent representative of Uncle Sam when George Van Dyke drops in for a visit. Handsome and dressed in good taste, he looks as if he might have stepped out of a corporation board of directors' meeting. He knows his business and, when he speaks, it is out of well grounded experience. — HAROLD W. HERMAN.



"YOU'LL NEVER LOSE IF YOU KEEP punching" is a time-tested axiom for fighters. But a General Mills chemist has taken it from the hurly-burly of the arena and applied it to the comparatively quiet life of the research laboratory. It's now helping him win his battle to keep up with the world's rapidly growing scientific literature.

The chemist is Dr. A. Furman Isbell of General Mills' organic research section. Originally, he began "punching" because he recognized a problem and did something about it. Like other professional men who work knee deep in technical information, Dr. Isbell had trouble keeping track of reference material. He'd read a scientific article, write out a card listing the subject matter of the paper and drop it in his file. But when he tried to pull it out a few months later, it usually seemed to have moved. No matter how carefully he filed, many of his reference cards played coy, hiding where he least expected to find them.

One day, after fruitlessly leafing through his neatly arranged stack of cards for more than an hour, Dr. Isbell gave up in disgust. There must be, he decided, a better way of classifying reference material, and he set out to find it.

Nearly all conventional filing systems, he discovered, have two primary faults: First, they provide no easy means of cross-indexing information under many headings; for each cross-reference they require an individual card that must be filled out at considerable cost in time and effort; therefore, they actually discourage complete cross-referencing. Second, the conventional systems involve the mechanics of filing cards in a single, proper order and, therefore, are wide open to error.

REDUCES POSSIBILITY OF ERROR

After passing an eye rapidly over these generally used methods, Dr. Isbell moved on to other possible systems. One type that immediately attracted his attention was the punched-card technic in which V-shaped notches, representing subject classifications, are cut in special file cards. Since these punched cards are sorted mechanically, they save time and cut down the probability of error.

By talking with librarians and reading between the lines of published information, Dr. Isbell finally figured out the rudiments of the system; he found, though, that most punched cards assign only one idea or classification to a notch, limiting the total number of subject classifications to the number of possible notches on a card. For his purposes, he needed a much more flexible system. Since he worked with many different organic chemicals that could be involved in an infinite number of reactions, he wanted a file that could expand almost indefinitely and with which he could cross-reference many times.

He first picked up the trail of such a system from J. W. Perry, chairman of the punched-card committee of the American Chemical Society. Mr. Perry recommended a technic based on the laws of mathematical probability and developed by Dan Merrick, an executive of a company that manufactures office equipment. Used by the Navy Department during World War II, the system filled Dr. Isbell's list of requirements virtually from A to Z. As applied to General Mills' needs, however, the punched cards still skipped a few letters, so he modified the system and adapted it to his own filing problems.

Basically, his method uses a series of 5 by 8 inch cards, each with 29 num-

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bered holes across the long edges at both top and bottom. The numbers of these holes correspond to code numbers assigned to various subject classifications; other holes on the narrow edges indicate whether or not the article is a patent, give its general type and its year of publication. A lined area in the lower left-hand corner offers space for recording in writing the subject classification code numbers punched on the card.

To use the system, you simply sit down with whatever article you happen to be reading, with one of these cards and a V-shaped punch. When you run across some bit of information worthy of future reference, you punch out three numbers on the card assigned to that broad subject and then fourth and fifth numbers assigned to a subdivision under the subject. As you read along and find new ideas, you punch similar corresponding five-number codes on the same card; then you toss the card into a file box.

Suppose, for example, you are skimming through an article on "amino acids," a subject to which you have previously assigned the numbers 8-15-22. If you want a record of the article for future reference, you punch out 8-15-22 on the card. As you read, you find that the article discusses the individual amino acids "tryptophane," assigned the numbers 1-2, and "leucine," given the numbers 1-3. Therefore, you punch out 1, 2 and 3 on the card in addition to the 8-15-22. You also find that the paper describes certain chemical reactions of the amino acids, involving specifically the "addition of hydrogen to carbon to carbon double bonds." Since you may later be interested in that type of reaction, you punch out, on the same card, the numbers 2-18-20, previously assigned to the general heading "addition of compounds to carbon to carbon double bonds"; you also punch 12 and 43, which in your code means specifically "the addition of *hydrogen* to carbon to carbon double bonds." Altogether, then, you have a card that tells you: (1) the subject of the article is amino acids, (2) it deals with the specific amino acids, tryptophane and leucine, (3) it contains information on the addition of hydrogen to carbon to carbon double bonds.

Later, when you want to find published material on amino acids, you pick up your entire card file and insert a long, pointed instrument, much like an ice pick, through the hole labeled with the first number of the code for amino acids, in this example, 8. Since cards on which that number has been punched have no support, they fall out while the others remain suspended from the "ice pick." You then discard those that did *not* fall and repeat the process with the others, using the second (15), third (22), fourth (1) and fifth (2 or 3) numbers of the code successively. In a few seconds, you end up with all the cards on the subject of "tryptophane" or "leucine." If you had been looking for information on the addition of hydrogen to carbon to carbon double bonds, you would have followed the same steps with the numbers 2-18-20-12-43.

Scientists like this system particularly because it frees them from the boring job of carefully putting reference notes in alphabetical or numerical order. They can flip the cards into their files at random; they can keep them in almost any container from shoe boxes to desk drawers, and the cards still will pop out when needed. Actually, the system has only one requirement: Cards must be aligned while they are sorted, but the cards themselves simplify fulfillment of that need because they have been designed with their upper right hand corners beveled. When one individual card is upside down or reversed, it breaks the uniform bevel of the group and virtually shouts a demand for rearrangement.

In addition, the system makes available all information on a particular subject with a minimum of effort; it's accurate, too, for it makes misfiling a card impossible. As a clincher, it even helps compensate for the frailties of human nature. Like everyone else, scientists have their lazy moments, and with ordinary systems, they frequently fail to cross-reference thoroughly because of the time and effort required to fill out several individual cards. When they can cross-reference with a punch, however, they usually record every conceivable subject heading.

In adapting the punched-card technic to his needs, Dr. Isbell faced twin

HOW TO SET UP A PUNCHED-CARD FILE

1. Make a logical list of major headings under which you wish to file. Then divide these major headings into as many subheadings as you think necessary. Record your list of subjects in an expansible, loose-leaf notebook. Since you may add headings as they become necessary, your original list need not be complete.

2. Assign to each major heading a three-number code. To select the code numbers, draw metal disks *at random* from a group of 58 disks of uniform weight and size and numbered 1 through 58. Always arrange the numbers of each code in ascending order and calculate their sum.

3. In the back of your loose-leaf notebook, list each code used under the sum of its three figures (that sum will always fall between 6 and 171, inclusive, if you work with a total field of 58 numbers). As you assign a new code, check under the sum of its three numbers to determine whether or not you have used it before; if you have, discard it and draw again.

4. To choose the fourth and fifth numbers of your code, assign the first subheading under the first major heading the numbers 1-2, the second subheading the numbers 1-3, and rotate the fifth number through 58, skipping the four numbers you used in the first part of the code. Then give the first subheading under the second main heading the numbers 2-3 and the second subheading 2-4. Continue this numerical order through 58, so that the final subheading has the numbers 2-1. If you need more than 54 subheadings under one major heading, increase the fourth number by one and start a new rotation of the fifth number.

5. When you read an article you wish to file for future reference, fill out one of your special cards, listing the title of the paper, its author, its date of publication, and any other information you need. Then select the major heading and subheadings with which the article deals and write the code numbers for those headings in the area labeled "Classification Code" (Fig 1). Finally, with a V-shaped punch, punch out the holes corresponding to those code numbers and drop the card in your file.

With a few snips of his punch, Dr. A. Furman Isbell marks a reference card for his file.

problems: He first had to determine how many code numbers to assign each idea or subject and then how to select those numbers.

Eventually, he chose a five-number code for two primary reasons: First, although five numbers are simpler to handle and are mathematically more efficient than six or more, they give him the possibility of coding 4,582,116 individual ideas. In contrast, the use of four numbers offers the mathematical possibility of coding 424,270 separate subjects, and the use of three numbers drops the total to only 30,856.

FIVE-NUMBER CODE

Although even the 30,856 headings that could be coded with three numbers would be adequate, Dr. Isbell adopted the five because of still a second consideration: the "selectivity" of his sorting method. Since he hoped to cross-reference an average of five times on each card, he faced the possibility of duplicating numbers so that a certain percentage of "extra" cards on unrelated subjects might drop during a sort for one particular idea.

If, for example, a card was punched with the code 8-22-27-26-2, meaning "oleic acid," and was cross-referenced with the code 7-15-17-1-25, indicating the "fractionation of fatty acids," it would drop out when he sorted for a card on the amino acid "tryptophane," punched 8-15-22-1-2; the punched numbers on the first card largely duplicate those on the second card, even though they stand for entirely different subjects.

Mathematically, the number of cards that will drop during an average sorting is expressed by the formula $(1/A)^n$, where $1/A$ is the fraction of the total number of holes punched (on Dr. Isbell's card the possible total is 58) and n is the number of holes used to designate a single subject. If, then, he had used a four-number code and had punched an average of one-half of the total 58 holes per card, he would have expected one card to drop from every 16 cards sorted ($[\frac{1}{2}]^4 = 1/16$). By using a five-number code, however, he reduced the average to one card in 32 ($[\frac{1}{2}]^5 = 1/32$). Since the number of "extra" cards is always a fraction of the total number dropped, he obviously obtained fewer unwanted cards with a five-number code than with a four-number code.

Since he wanted still greater selectivity, Dr. Isbell then decided to hold the number of holes punched per card to approximately one-third of the total, obtaining an average of less than one extra card in 243 cards sorted ($[1/3]^5 = 1/243$).

In selecting code numbers, his main problem involved finding a way to assure random distribution. Since the punched-card system is based on mathematical probabilities, it will work only when the subject numbers are as equally distributed as possible among all the available holes in a field. To meet that requirement, he took a lesson from selective service and its famous "fish bowl." In choosing the code for amino acids, for example, he mixed a series of metal disks, numbered 1 through 58, in a glass jar. He then drew them out at random, one at a time. Since the first happened to be number 8, he made 8 the first figure of the code for amino acids; since the second was 15, he made that the second number of the code and so on until he had the three numbers 8-15-22.

To guard against assigning amino acids a code already given to some other classification, he performed a few mathematical gymnastics: first, he added the three numbers of the code and found that they totaled 45 (8+15+22). He then looked in a notebook in which he had previously recorded all assigned code numbers with a sum of 45; since he did not find the combination 8-15-22, he knew it was available for amino acids. If he had found it listed, he would have drawn again to obtain a new series of numbers. Because of a simple mathematical law, the sums of all three-number combinations between 1 and 58 will always fall between 6 and 171; therefore, his reference notebook formed a convenient index of used combinations under only 165 sums, 6 through 171.

Finally, to select the fourth and fifth numbers designating the subdivision "tryptophane" under "amino acids," Dr. Isbell arbitrarily chose the figures 1 and 2 and started a numerical rotation. For the second subheading, leucine, he picked the numbers 1 and 3, and so on through 58 for each subdivision, eliminating the numbers 8, 15, 22 and 1 that appeared in the first part of the code.

DRAWS FIRST THREE NUMBERS

After completing the "amino acids" classification, with all its subdivisions, he moved on to the second main category, drawing numbers for the first three figures of the code and then assigning fourth and fifth numbers in rotation. For the first subheading under the second main category, however, he used the numbers 2-3 instead of 1-2. Since he added fourth and fifth numbers to the code for each main classification according to the same plan, he effectively distributed the figures throughout the entire field.

Dr. Isbell has used his punched-card system since December 1947 and thus far he hasn't found a major flaw. It has, he says, saved him time and effort and has considerably improved the "color" of his language.

Tulane University designs a new PURCHASE ORDER

HAROLD T. PORTER
Purchasing Agent
Tulane University of Louisiana

WHEN WE DECIDED TO DESIGN A NEW purchase order form for Tulane University, we also decided to beg, borrow and steal the best ideas on form design we could find.

We obtained these ideas from two main sources: a collection of nearly 200 college and university forms that were submitted to us by business form salesmen, and the suggestions that were made by the salesmen and their design departments. We adapted these ideas to meet our own requirements and conceptions and ended up with a form that we believe has many merits.

The purchase order used for the preceding four or five years (Fig. 1) had several features that made it difficult to handle. In the first place, it was printed by the Tulane Press, which did not have facilities for making either a continuous form or a one-time carbon snap-out form. Consequently, the seven-part 8½ by 11 inch form was made up in pads of 50 sets, all on white stock.

This design required that the typist insert the carbons by hand, tear off a set, remove any padding compound that might cause difficulty in the typewriter, insert the form, line it up, type, remove the set from the typewriter, and separate the forms from the carbons.

A second difficulty was that the entries on the form were not arranged for easy typing. Particularly cumbersome were the means used to keep account number, department name, and estimated costs from showing on the vendor's copy of the order. This result was accomplished by making a perforation about 1⅛ inches from the right margin. The confidential information was typed in this space so that it would show on office copies, and the strip was torn off of the vendor's copy before mailing.

The narrowness of the strip often required that two or three lines be used for budget and department names, sometimes making as many as eight separate lines of typing in this space. It was difficult to type those entries speedily, particularly on an electric typewriter which returns the carriage all the way to the left margin.

Nor was the body of the form laid out for easy typing. The left margin stop could be used for vendor's name and address, shipping address, and quantity ordered. However, the typist had to use seven tabular stops (or jiggle the space bar) for description and F.O.B., terms, shipping date, date of order, unit price, total price, and the confidential budget information entries.

Furthermore, the form was designed so that nearly every piece of informa-

PURCHASE ORDER

No. 3480

ORDER NUMBER MUST BE SHOWN ON INVOICE AND PACKAGES.

Please furnish the following articles to:

The Tulane University of Louisiana
c/o_____
New Orleans , Louisiana

Date_____

SEND INVOICES DIRECTLY TO THE PURCHASING AGENT. SEE ADDRESS BELOW.

Budget
Department
Account No.
Amount

Quantity Ordered	Description	Unit Price	Total Price	Requisition No.

Terms_____
Shipment to be made_____ Date

Price F.O.B. Per

Acknowledgment—Please acknowledge receipt of this order by return mail and indicate when and how the materials will be shipped.
INVOICES—Send invoices in DUPLICATE, prevailing cash discount to apply. Invoices must be received 5 days after purchase against this order.
Address all communications with reference to this order to the undersigned.

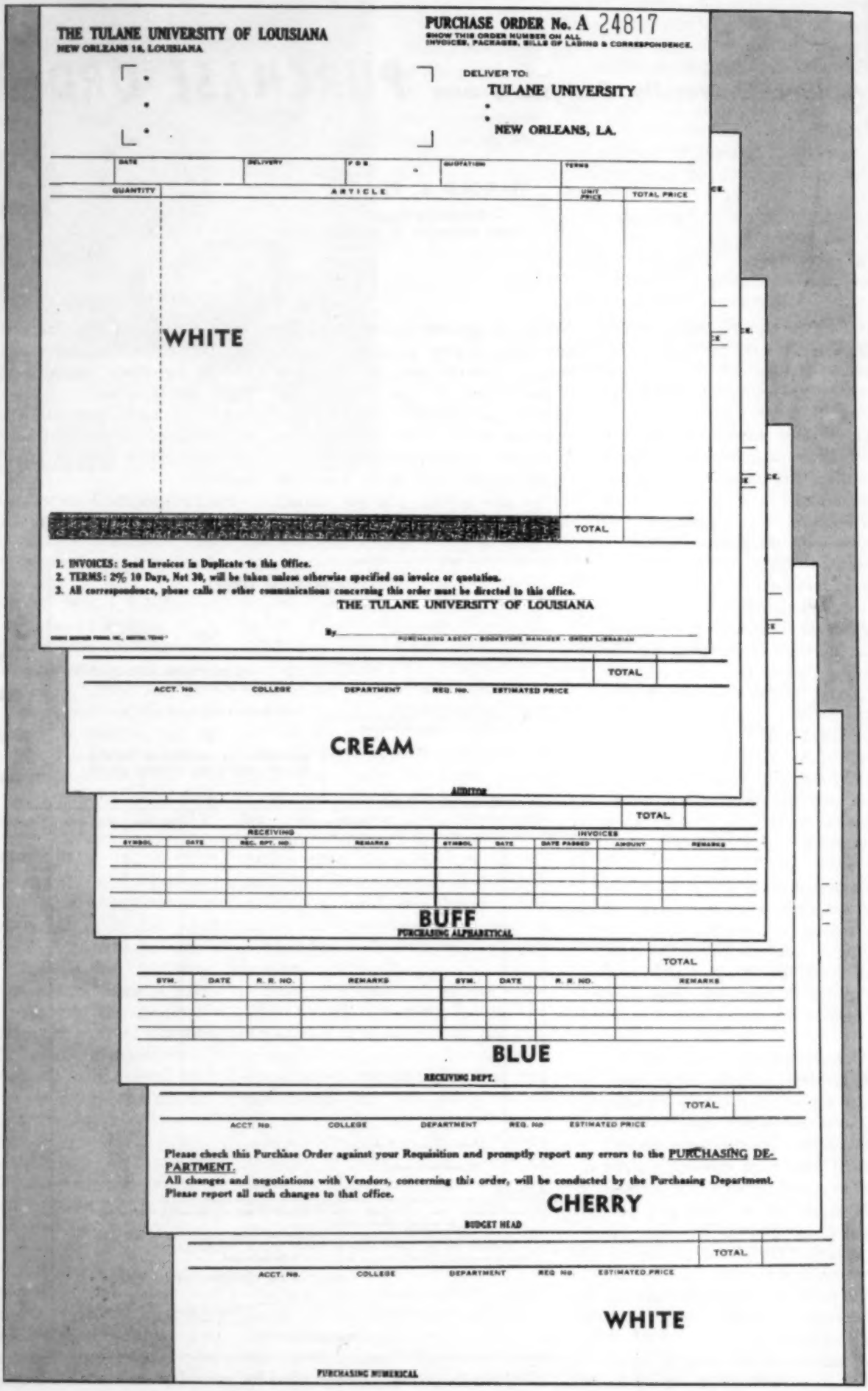
THE TULANE UNIVERSITY OF LOUISIANA

_____
Purchasing Agent
P. O. Station 88, New Orleans 15, La.

VENDOR'S COPY

Fig. 1. Form used for several years.

TULANE'S NEW ORDER FORM



tion was on a different line. In order to prepare a purchase order involving only one item, it was necessary to type on at least 16 lines if all the pertinent information was filled in. These features of the old design made the form awkward to type, and such awkwardness always consumes time.

THIRD DIFFICULTY

A third difficulty was that the vendor's address was so located that it would not fit a government stamped window envelope. Consequently, envelopes had to be addressed by the typist. These time consuming factors, in our estimation, were costing us at least one-half of one employe's time each day.

Illustrated on the opposite page is the new design. It is an 8½ by 8½ inch continuous form, a simple carbon shifting device that will work with any standard office typewriter being used. The form comes in packs of 50, and one set of carbons is sufficient for each pack. This feature makes the form simple to handle, yet the cost, including carbon, is about 33 per cent less than the cost of the continuous interleaved forms, 17 per cent less than that of snap-outs, and, strangely enough, 25 per cent less than the cost of our old form.

As is customary with such forms, the separate parts of the new form are identifiable by color as well as by printed marginal designations and can be sorted quickly.

The body of the form is designed for speedy typing. The date, delivery, F.O.B., quotation and terms spaces are laid out in a single line, which makes for fewer carriage returns and more speed. The confidential budget information is also laid out in one line and is concealed from the vendor by a block-out across the lower part of his copy of the form. Tabular stops are not needed on these lines because only two or three spaces separate the entries.

The left margin stop will serve for vendor's name and address, date, quantity and budget information. Three tabular stops are needed for shipping address, unit price, and total price.

In order to prepare an order for one item on the new form, it is necessary to type on only eight lines instead of 16, which greatly reduces the amount of time required.

The delivery address is still a little awkward to type. However, putting it at the left margin, which we considered doing, would have required either lengthening the form or reducing the space available for listing articles. Incidentally, 24 lines are available for listing items on the new form, the same as on the old, despite the reduction of 2½ inches in length.

SPACE FOR SYMBOL COLUMN

The quantity column was made fairly wide, and only the inner portion of it is used in order to leave a "symbol" column on the purchasing alphabetical and receiving department copies, to identify items covered by each receiving report. The dividing line between "quantity" and "article" columns was made dashed rather than solid so that it would not interfere too much with entries that might run across it.

The vendor's name and address are located so that we can use a U.S. post office stamped window envelope.

We are experimenting with the practice of having the purchasing department, bookstore and library use the same form, hence, the three titles under the signature line. The name of the agency can be typed in above the university's name in the corner. Each of the six copies of the form has some peculiarities designed to accomplish its specific purpose. The major difference between parts of the form is in the space below the description of items.

The explanatory information about invoices, terms and correspondence and the signature line appear only on the vendor's copy.

The auditor's copy shows the account number, college, department, requisition number, and estimated price with the entries properly identified. The space below this information is left blank so that the posting machine operator can pick out the data easily, and this copy is the first carbon so that it will be legible.

SIMPLIFIES POSTING

The purchasing numerical copy is used for permanent reference purposes only, so it is like the auditor's copy, except that it is the last carbon.

The purchasing alphabetical copy is the purchasing department's working copy of the order. The space at the bottom is designed so that data from all receiving reports and invoices can be recorded in boxes at the bottom of the form, where they will be easily and clearly available. A system of symbols is used to relate these entries to the particular items in the body of the form.

On the receiving department copy, all of the space at the bottom is available for recording data from receiving reports.

The budget head copy has in this space instructions about checking the order and reporting changes and cancellations to the purchasing department.

Our experience has not been extensive enough as yet really to evaluate the entire design. However, we are pleased with results so far attained.

Write for Volume Index

If you bind your volumes of COLLEGE and UNIVERSITY BUSINESS you will want the index to Volume 6, covering issues from January through June 1949. You may obtain your free copy by writing to College and University Business at 919 North Michigan Avenue, Chicago 11, Ill.

DISCIPLINE AND COUNSELING IN RESIDENCE HALLS

ROBERT E. WHITE
Assistant to the Manager of Residence Halls
University of Illinois

FREQUENTLY COUNSELORS NEED counseling. One of the biggest problems confronting them professionally is the degree to which they can or should become associated with discipline. Because of the repeated occurrence of this question and because it is recognizably a complex one, it requires considerable investigation and discussion rather than a cursory glance and a quick answer.

What follows in this article is written specifically for the information and guidance of those counselors who work with university students in residence halls. It is, however, based on sound counseling principles and may be applied to almost any counseling situation.

It is imperative, first, that a semantic understanding of what we are discussing be reached. It is unfortunate that the English language contains many words that are repeatedly used with two or more meanings. And this is true of both "discipline" and "counseling." Consequently, their meanings must be refined for purposes of this discussion.

The confusion with the word "discipline" seems to arise because of that connotation of it that includes punishment, a retributive rather than a preventive operation. In personnel functions, one must always remember that students are inclined to view all discipline in this fashion. Admittedly, "discipline" also means training that strengthens, molds and corrects behavior and behavior patterns—without the stigma of punishment. A full denotation of the word will include both, without excluding either. Therefore, as both connotations do exist whenever the word is employed, such a total definition will be inferred each time the expression is used here.

"Counseling" seems to have as many meanings as it has users. It has been defined operationally by everyone who has used it in his profession—judges, psychiatrists, psychologists, educators, ministers, marital advisers, student counselors, clinicians—according to his own application. There is, however, at least one idea basic in all, though emphasized in varying degrees: to aid the individual being interviewed to make rational decisions and to take positive action based on those decisions.

Or, as Carl Rogers states it: "Counseling is that relationship through which an individual gains an understanding of himself so that he may take self-initiated and positive action in all situations he may encounter."

STUDENTS' REACTIONS

Having defined "discipline" and "counseling," it should be apparent that the two are entirely incompatible. Discipline affects students variously—some shrug their shoulders and take their medicine without recognizing why, some feel bitter resentment toward the disciplinarian, some project guilt and feel sorry for themselves— but none of them is motivated toward the desired insight and corrected behavior. At best, the undesirable trait is repressed, when it should be removed. This, however, does not mean that the counselor should be blind or ignore misbehavior when it becomes apparent or when it is reported to him.

Oddly enough, the last statement does not contradict those previously made, and it is one that is seldom emphasized sufficiently. But, the counselor must enter such a situation with the intent of educating the student, not with the intent of disciplining him. The counselor's task is to discover the cause of the objectionable behavior.

Discipline, based on retribution, determent or protection theories, will have little lasting effect. Rather, students should be educated so that they understand the social inadequacy of their behavior and the cause of it, so that they may develop acceptable personalities through learning and growth. This applies to all areas of misbehavior, such as lying, stealing, cheating and infraction of university and residence hall regulations. It is the duty of the counselor to discover causes and to educate his students so that the causes are removed. Once he becomes associated in any way with discipline, he loses respect and confidence that may never be regained; but he runs the same risk if he ignores misbehavior, which is always symptomatic.

The well integrated counseling program in residence halls is actually preventive in character. The main concern then is in keeping students from academic failure, in keeping them from developing deviate personalities, in assuring them that they have optimum opportunities for participation in extracurricular events, in maintaining a relatively well balanced and natural existence while at the university. If this is made the aim and emphasis of the counseling program, there will be little or no need for discipline.

Nor is the foregoing meant to imply that there is no place in residence halls for discipline. It is known that there are individuals with whom no other approach is possible; it is also known that discipline does have some, though little, motivational value. However, it remains the task of the administrator—the hall manager or supervisor—to enforce regulations and to administer discipline when necessary. Counselors who assume this responsibility become proctors.

The ideal situation is one in which there is close coordination among the counseling program, a management that has adopted the personnel point of view, and a student government that is willing to participate actively in the program. In such an organization there will develop a complete understanding of mutual problems, and the residence halls will be discharging their full responsibility to the students.

INSTALLING A SNACK BAR

GORDON B. BRIDGES
Director of Dining Service
Amherst College

IN THE FALL OF 1941 AMHERST COLLEGE opened its new Valentine Hall. This building is of early Georgian Colonial architecture and houses the college dining service. Every effort was made to make it one of the most modern and attractive of dining halls.

There are a central kitchen and three separate dining rooms, each with its own serving area and dish and glass washing equipment. Yet, in spite of all the forethought that went into designing the building, no provision was made for the installation of a snack bar where students and faculty could get between-meal refreshments. Eating between meals, whether good or bad from a dietary point of view, is an old American custom and will be indulged in anyway, so we felt that we should provide the necessary facilities where college supervision could prevail.

Located off the main foyer that connects two of the dining rooms was a lounge. This room has a southern exposure that looks out upon a flagstone court at ground level. The south wall is one solid row of French windows. The interior is white and buff painted paneling, and there is a fireplace located at each end of the room, which is connected to the foyer with large sliding doors. The floor is red and black asphalt tile.

This room was little used as a lounge, and it was decided to convert it into a snack bar. One condition under which this permission was granted was that no structural changes should be made lest the snack bar not be a success. This proved to be an unnecessary precaution.

NEW EQUIPMENT UNOBTAINABLE

The purchasing of equipment in 1943 at the height of the war was a difficult task. New equipment was impossible to find. After searching far and wide, a used soda fountain and salad bar finally was obtained, and eventually the rest of the equipment, some used and some new, was procured.

The room had two large built-in bookcases on the north wall. The shelving of one of these was removed, and a large section plate glass mirror was substituted. This area became the back bar with shelving and back counter top for storing dishes and glasses.

A stainless steel hood was hung over the grill, and a vent duct was tied into the fireplace flue; in addition, a small squirrel cage blower was used to facilitate the removal of cooking odors and smoke. While this arrangement prohibited the use of the fireplace for its original intent, it was not important as there was another one at the other end of the room if a fire was needed.

The front counter was made of maple plywood with a linen finish composition top; it was built to accommodate the odd pieces of equipment we had procured. Two closets in the room were utilized for storage.

The plumbing was so arranged that only one hole had to be drilled through the floor, through which run all pipes and drains, including refrigeration and soda water lines. Located in a storeroom directly beneath the snack bar are the carbonater and compressor.

If circumstances demand it, the whole room can be transformed in a matter of hours to its original state. Bookcase shelving could be replaced and the hole in the floor cemented in and covered with a matching asphalt tile.

It was the intention of the college to make this room as attractive as pos-

sible. To do otherwise they felt that the student body would consider it as just makeshift arrangement and it would lack popular appeal. Matching composition topped tables and aluminum chairs were purchased, some tables seating four and others, two persons. The seating capacity is 60.

The room has become a popular meeting place not only for students and their guests but also for faculty members and their families. Between classes one may observe a close association of faculty and students where topics of mutual interest are discussed over a sandwich and a cup of coffee. The snack bar has been an important factor in promoting closer student and faculty relations.

I think it important for a school considering the installation of a snack bar to have complete soda fountain service. Bottled drinks do not have the appeal that drinks mixed to order have. It is surprising the combinations that some students desire, and with a soda fountain these desires can be met.

We serve a complete line of sandwiches and grilled items, such as ham, cheese, hamburger, frankfurters and bacon. Prices are kept low and average about 20 per cent less than those prevailing in the town. Patronage is limited to the college community and alumni.

After the war, because of increased enrollment, we realized that we would have to enlarge the counter and install an additional fountain. This was done, and even two fountains are at times inadequate to supply the demand.

Operating Expense

Salary and Wages	21.5%
Heat	0.2%
Electricity and Water	2.0%
Telephone	0.1%
Supplies	2.5%
Labor	0.9%
Maintenance	0.5%
Depreciation of Equipment	1.8%
Total	29.5%
Net Profit	5.2%

Cost of the original installation, complete with accessories, was $3500. Amherst College has an enrollment of slightly more than 1200 students, and the average number of daily sales is 900. Of course, some of these are repeaters. The average check is 20 cents. The cash register is located on the back bar behind each fountain, and customers pay when served. There are no charge accounts whatsoever. Any perishables used are requisitioned from the main kitchen, and at the end of each month a complete inventory is taken and adjustments are made to compensate for materials requisitioned from the dining service.

The snack bar, although part of the dining service, is operated as a separate unit and must pay for itself. Therefore, a financial statement is drawn up monthly to enable the management to know how things really stand.

Our statement covering the period from September 1947 to June 1948 shows a food cost of 65.3 per cent and a gross profit of 34.7 per cent. A breakdown of the operating expense is given in column 1.

I feel that our food cost, although a little high, is justified by the fact that we give liberal portions and keep the prices low.

Location of a snack bar on the campus is of paramount importance. It should be placed in a building that is easily accessible and should be attractively arranged. Students, like any other group, react favorably to nice surroundings.

WORKING WITH STUDENTS IN FOOD SERVICE

T. M. REHDER
Director of Dormitories and Dining Services
State University of Iowa

NO DOUBT ALL OF US HAVE WONdered at the end of a day whether all the time we had spent with our employes — helping on a personal difficulty, giving a pat on the back for a job well done, settling some apparently insignificant differences, and making suggestions — had been time well spent. We have wondered whether these problems of personnel were as important as the physical aspects of our operation. But the questions of purchasing and equipment can be settled fairly definitely and put into the desk, while problems of personnel and training are never static; they are always alive.

PESONNEL PROBLEMS IMPORTANT

If you have ever had the experience of stepping into an organization in which everything was wrong (food costs, service, attitudes) and everyone in the place seemed to be at one another's throats, you have found that when you got the duties properly defined, responsibilities placed, human relationships set straight, and the purpose and the object of the organization clearly set up and held before the employes, the minor difficulties dropped down into proper relation and most of the problems were solved. Then you have realized that the problems of personnel and training probably constitute the most important factors in the operation of the business.

In studying the various personnel and training programs set up by organizations that deal with the public, we find that their prime objective is to please the customer. Any organization that has for its objective the pleasing of the public must start first by generating good will among its employes. I think it is fairly easy for any of us to set up a food service that functions reasonably well, but each of us wants to instill into our organization that extra "something."

We want food that is delicious and faultlessly served. We want our organization to have that "extra personality" that makes each one served feel that he is welcome, that he is being served by someone who is actually concerned about his comfort and who is sincerely trying to please him. Our equipment, our decorations, how new or old our dining room is cannot directly affect this atmosphere. It is an intangible thing; we can never be quite sure when we have it, but we can best ensure its presence by extremely careful selection, handling and training of our personnel.

It is the business of the food service manager to sell her organization,

be it residence hall or union, and to sell her residence hall or union food service to every employe and to make the job of each person seem important (and it really is) in relation to the food service as a whole. We must be sure that we have a manager who, by her experience, training, background, temperament and interest, is capable of doing the kind of a job we want done — one who can train, counsel and advise the employes as well as get their loyalty and enthusiasm. A worker reflects the attitude of those who direct his work and those with whom he comes in contact. If the prevailing attitude is one of indifference, the workers will be indifferent. An organization is the length and shadow of the person heading it.

Memorial Union at the State University of Iowa is like most unions in that it is the social center of the campus. Its food service consists of a cafeteria, soda fountain, faculty club, and a large party service. Unlike most unions, the food service department was to go into a unit that is yet to be built and, as a result, food was and is served on all four floors and all over the building. In order to do the job at all and keep costs in line, it was essential to have a well trained crew that knew the building and could do the job with a minimum of direct supervision.

To be able to manage six or seven parties at one time and to handle banquets up to 1000 in size, it was necessary that every student employe be a potential waiter, regardless of whether his regular job was that of janitor, fountain attendant, or dishwasher.

EXPLAIN POLICIES AND RULES

We open in the fall a few days before the rush of business starts to give us time for training and organization. General meetings are held explaining the history of the union, the dining service, and its purpose. Policies and rules are explained; time is allowed for discussion and questions. The head waiter drills his crew in the fundamentals of service. He explains where the duties start and leave off in relation to the kitchen force and the people in various departments. He also talks over labor percentages with the boys; he takes them over the building, getting them familiar with the various rooms; he shows them blueprints of every room that is used as a dining room with the various dinner setups. They go over the inventories of china, silver, glassware and linen.

Various types of tables are set up; the use of the cocktail fork, bouillon spoon and finger bowls is explained. The boys are taught family style service, banquet and exchange service, tea and dessert bridge service; they are shown how to pass a relish plate and a salad bowl, how to serve after-dinner coffee and all the various kinds of foods they are likely to handle throughout the year.

FORMAL DINNER FOR WAITERS

In these meetings pictures of former setups are used. At least once during the year, we serve the entire group of waiters a formal dinner so that they can get the customer's side of the picture. Whenever there is a large dinner or dinner dance, special instructions are given to each waiter.

The boys learn what food and condiments go together and which combinations basically make up a good meal. They learn to know the names and individualities (special diets, likes and dislikes) of the people who come to parties. Throughout the training, emphasis is placed on doing the job pleasantly, courteously and with a smile.

We have a large library of books on service. The boys are much interested in these and hardly a week goes by without one of them coming into the manager's office to look up some point of etiquette, perhaps how the place cards are arranged at a wedding breakfast or dinner. We try to have our private dining room crew know what the correct procedure is for serving any type of party: wedding reception, formal dinner, or informal buffet.

During the year, the head waiter is constantly training his entire crew so that any one of them will be capable of acting as head waiter for a party. In addition to training his own crew, the head waiter must train all boys in the organization in the fundamentals of party service so that in case of a large banquet they will be available for service.

Meetings held throughout the year are important because they give direction to the training, redefine our purposes, give the boys a chance to present criticism and bring to light points of friction, and serve as a general check on the state of the organization.

We stress the fact that our employes get something in the way of experience out of working for the organization that will be worth more to them than the cash value of the job. The opportunity to direct and train a group of men gives the captains experience that is valuable to them regardless of their future vocations. They have an opportunity to know practically the entire faculty, many of the townspeople, and outstanding personalities that come to the campus.

We must not forget that problems of personnel and training are as important in the kitchen as they are in any part of the organization. There must be constant training for the proper handling and preparation of food. The kitchen people must be made to feel the spirit and purpose of the organization. They are just as pleased when a function goes well and are just as happy to know that they are doing as good a job as the people "out front" are. This should be remembered, because good coordination among departments is essential for a unified organization.

EMPLOYES' CONFIDENCE ESSENTIAL

What we expect from our people is a smooth running organization that can handle any emergency and can do the job of pleasing the public. If our employe relationships are right, our organization will be producing that extra "something" in service and food which all of us want. Our employes will have confidence in us, will be interested in their organization, and will contribute ideas and criticisms for the good of the organization. If we have the complete confidence of the people within our house, the general public is bound to feel the same confidence.

Our employes represent us, on and off duty; every act they do, every attitude they take, every statement they make is representative of the organization in the eyes of the customer. Often our guests contact only our employes; we cannot meet them all personally. I know of no food organization in which this is truer than in college food service. We employ large numbers of students; they are employes one minute and the next, our customers. They are members of the various student organizations, they are on the union board, on the residence hall councils, and take an active part in "bull sessions" up in the rooms.

Since the reputation of our food service is in the hands of our employes, it is vitally important that we spend time and energy in a personnel and training program.

THE TAX STATUS OF FACULTY ROOM AND BOARD

T. E. BLACKWELL
Treasurer
Washington University
St. Louis

DURING THE HOUSING SHORTAGE OF the postwar years, many colleges and universities have found it essential to provide living accommodations for a larger proportion of faculty and staff. If the charges for these facilities are paid by the employe to the institution under an established schedule, no income tax problem is presented. However, in some institutions, such facilities are provided as part of the overall compensation to the employe. Unless the nature of the employe's duties are such as to require him to live in the quarters provided, the cash value of the facilities provided is taxable income to the recipient.

The following is an excerpt from U.S. Treasury Regulation 111, Sec. 29.22 (a)-3:

"Compensation Paid Other Than in Cash: If services are paid for with something other than money, the fair market value of the thing taken in payment is the amount to be included as income. If the services were rendered at a stipulated price, in the absence of evidence to the contrary such price will be presumed to be the fair value of the compensation received. . . . If a person receives as compensation for services rendered a salary and in addition thereto living quarters or meals, the value to such person of the quarters and meals so furnished constitutes income subject to tax. If, however, living quarters or meals are furnished to employes for the convenience of the employer, the value thereof need not be computed and added to the compensation otherwise received by the employes. . . . "

Thus, the "convenience of the employer" is the yardstick by which we must determine the tax status of faculty room and board. An English case decided by the House of Lords in 1892 (Tennant *v.* Smith, H.L. 1892 Appeal Cases 150) points out the difference between taxable and nontaxable income:

"It appears to me that the case was decided in the court below, as it has been argued at your Lordship's bar, upon the true legal issue, namely whether the appellant's residence is income within the meaning of the statutes which must be valued and assessed for income taxes. . . . The appellant does no doubt reside in the building, but he does so as the servant of the bank and for the purpose of performing the duty which he owes his employers. His position does not differ in any respect from that of a caretaker or other servant, the nature of whose employment requires that he live in his master's dwelling house or business premises instead of occupying a separate residence of his own."

NOT TAXABLE INCOME

In 1925, the Court of Claims of the United States decided that a commutation of quarters paid in cash to an army officer, there being no government quarters available for his occupancy, did not constitute taxable income to the officer. (Jones *v.* U.S. 60 Ct. Cls. 552.) The following is an excerpt from the opinion of the court in this case:

"If the nature of the services requires the furnishing of a house for its proper performance, and without it the service may not properly be rendered, the house so furnished . . . forms no part of the individual income of the laborer."

However, a case decided in 1946 (Ellis *v.* Commissioner 6 T.C. 138) indicates the strict interpretation the courts have placed upon the phrase "for the convenience of the employer." Ellis was president and chairman of the board of directors of a real estate company in Baltimore. He lived in an apartment in one of the buildings owned by his company. The rental value of his apartment was $1800 a year. The manager of the building also lived in the apartment building in quarters valued at $1000 a year. The illness of his wife compelled him to move from the building, and Ellis, the president of the company, took over his duties as manager of the building. Ellis claimed that he could not discharge his new duties as building manager without living in the building and that therefore the rental value of his apartment was not taxable income. The court ruled that only $1000 of the rental value of his $1800 apartment was tax free, *i.e.* the value that could be attributed to the employer's convenience. The reasoning of the court follows:

"While perhaps it might be said in other situations where employer and employe are dealing at arm's length that the best evidence of the measure of the employer's convenience is the value of the premises actually appropriated to the employe's use, here the petitioner's relation to his employer as director, president, stockholder and employe in another capacity eliminates the acceptability of such a test."

Although there have been apparently no cases of record involving the tax status of faculty room and board, it should not be too difficult to draw the necessary analogies from those available. If it is reasonably necessary for an employe to live on campus in order to perform his duties, the value of his room and board under such circumstances does not constitute taxable income to the recipient. Hence, the withholding tax need be computed only upon the cash salary.

However, if the duties of an employe can be discharged without residence on campus, the value of quarters furnished by the college under such circumstances is taxable income to the employe. Normally, the value placed by the college upon such quarters is accepted by the Treasury Department.

Unless the quarters are furnished for the convenience of the employer and, hence, tax free, the "fair value" of the premises should be added to the salary of the employe in computing the tax to be withheld.

Questions and Answers

Local Purchases

Question: How do you deal with local businessmen who think the college should buy all supplies locally.—M.W., Wash.

ANSWER: It is a good public relations policy to place all orders for small amounts with the local retail stores. On quantity buying, an invitation to bid should be sent to any local source requesting a share of the college business. Upon opening bids, it is good policy to acquaint the local bidder with the results and express thanks for submitting prices.—W.B.S.

Marking Linens

Question: What is the most effective method of marking residence hall linens? Should the linen be dated when it is purchased or when it is put into circulation?—F.H., Me.

ANSWER: To be most effective, the marking of linen should be done in large sized lettering regardless of whether it is stamped on at the factory or by the institution. Sometimes it is woven on at the factory, but there is no particular advantage in this method, and it is sometimes conducive to "souvenir" snatching.

There are two types of ink—one to be used with a hot iron, which is not practical for college use as it is too time consuming.

If the marker is a stamp to be used by hand, it requires the same attention in keeping it cleaned that the more elaborate markers require. Both ink and cleaning fluid may be purchased by the quart.

If the date is placed on the linen at the factory, that will of course be the purchase date rather than the issue date; therefore if one wishes to keep a record of the length of time the linen is in service, it is necessary that it be dated when it is put into circulation.—W.B.S.

Dirt *v.* Light

Question: Does the film of dirt on a painted ceiling and wall affect light reflection much?—A.S.T., Wash.

ANSWER: The difference in light reflection between a dirty wall and a good clean wall can be as much as 15 or 20 per cent. Incidentally, in painting ceilings one should always consider the effect of the color on light reflection. For instance, a light Colonial ivory paint on the ceiling will reflect about 80 per cent of the light. Off-white and light cream color will reflect about 74 per cent, whereas darker colors may only reflect 40 to 50 per cent of the light.—E. W. JONES.

Blanket Insulation

Question: Where can I obtain information regarding wood fiber blanket insulation?—H.P., N.Y.

ANSWER: A Recommended Standard for Wood Fiber Blanket Insulation (for Building Construction) has been circulated by the Commodity Standards Division of the National Bureau of Standards, to manufacturers, distributors and users for their consideration and acceptance.

This recommended standard prescribes minimum requirements for one grade of wood fiber blanket insulation ranging from ½ inch to 3 inches in thickness as made for building construction. It covers physical requirements and test for thermal conductivity, density, flexibility and fire resistance and sets forth methods of sampling, packing and labeling.

A limited number of mimeographed copies of the recommended standard are available, and a copy may be obtained, as long as the supply lasts, from the Commodity Standards Division, National Bureau of Standards, Washington 25, D.C.

If you have a question on business or departmental administration that you would like to have answered, send your query to COLLEGE and UNIVERSITY BUSINESS, 919 North Michigan Avenue, Chicago 11, Ill. Questions will be forwarded to leaders in appropriate college and university fields for authoritative replies. Answers will be published in forthcoming issues. No answers will be handled through correspondence.

Standards for Oak Flooring

Question: Can standards for oak flooring be determined and where can I secure information?—L.S., Iowa.

ANSWER: A third edition of the Commercial Standard for Oak Flooring which has been in effect since Feb. 25, 1949, has just been issued, according to an announcement by the Commodity Standards Division of the National Bureau of Standards.

The pamphlet contains specifications for three standard grades of quarter-sawed and four standard grades of plain-sawed flooring which are obtainable in either white or red oak. Requirements as to the minimum and average lengths, as well as permissible defects or characteristics in these grades are set forth. Drawings giving the various detail dimensions for the standard sizes are included, thus assuring a truly standardized product from which a perfectly matched floor can be laid, even if the material is obtained from a number of different sources. For those unfamiliar with the laying of flooring, a number of manufacturers' recommendations are included, to ensure proper handling and installation in both new and old buildings.

Copies of the pamphlet embodying the revised Commercial Standard (issued as CS56-49) may be obtained at 10 cents each from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. A discount of 25 per cent is allowed on orders for 100 or more copies sent to a single address.

Square Feet per Gallon

Question: How many square feet of wall or ceiling should be covered by 1 gallon of paint?—V.McD., Iowa.

ANSWER: A flat wall paint of high quality should cover between 500 and 700 square feet per gallon.

NEWS

Tax Exempt Enterprises Threatened by New Bill . . . Economic Conditions Not Affecting College Enrollments . . . Subversive Textbooks Being Investigated . . . Asks Additional Millions for G.I. Students . . . Argentina Abolishes all Tuition Fees

Washington Correspondent: BEN BRODINSKY

Un-American Activities Committee Investigates Subversive Textbooks

WASHINGTON, D.C.—Here is the record of the House Un-American Activities Committee's effort to look into "subversiveness in education," as reconstructed from official and unofficial sources:

April 16: The National Sons of the American Revolution convention approved a "Bill of Grievances" charging that schools and colleges are using large numbers of "subversive" textbooks.

April 23: Delegates from the Sons of the American Revolution presented the "Bill of Grievances," together with a petition for investigation, to Chairman Wood of the Un-American Activities Committee.

May 17: Chairman Wood sent a letter to 103 colleges and universities which read: "The Committee on Un-American Activities is desirous of obtaining lists of textbooks and supplementary reading, with names of authors, in use in our educational institutions throughout the country in the fields of American literature, geography, economics, government, philosophy, history, political science, and any other of the social science group.

"Since we have immediate need for this material, the committee will very much appreciate your cooperation in making this material available to us at the earliest possible date."

Names of colleges were selected at random. They included nearly every principal public and private university in the country.

June 11: A few lists but many more protests reached the Un-American Activities Committee.

June 13: Most members of the committee denied they were consulted on the move. Chairman Wood took responsibility. Protests from educators began to worry members of the committee as well as other senators and congressmen.

June 17: Committee sent a second letter to more than 500 educators, including the institutions to which the first letter was sent. Dubbed as "afterthought" letter, it tried to assure educators that the request for lists of textbooks did not imply criticism of their Americanism; that lists of supplementary references need not be sent, and that the committee does not wish to interfere with freedom to learn and freedom to teach.

June 21: Chairman Wood explained that lists sent by colleges and universities will be reviewed to see if they contain any of the texts listed by the Sons of the American Revolution as "subversive." He denied persistent reports that the investigation will be called off.

South African Colleges Are Near Bankruptcy

JOHANNESBURG, SOUTH AFRICA.—Reports were recently received that South African educators are strongly urging the setting up of a special grants committee to investigate the position of the Union's universities, some of which are said to be on the verge of bankruptcy.

The cause of their trouble is mainly extreme overcrowding, lack of adequate finances to expand, and excess of expenditure over revenue. The purpose of the proposed grants committee is to make recommendations for meeting the annual needs.

According to Hugh Parker, vice chairman of the Rhodes University College and one of the sponsors of the committee, the present state of affairs is attributed partly to a lack of public spirit, whereby these institutions are not sufficiently endowed, and partly to the "parsimonious view" of the present and previous parliaments.

Darthmouth Expands Employe Insurance

HANOVER, N.H.—Dartmouth College recently put into operation an enlarged group life insurance plan for all employes and a new retirement program for nonacademic employes. Max A. Norton, college bursar, announced that approximately $2,500,000 of group life insurance has been added for the benefit of the employes.

The 1930 program was one of the first adopted by any college.

Among the general increases in amounts of insurance is a new maximum of $10,000 for each full-time member of the faculty and administrative office. Dartmouth will share with its faculty members and administrative officers the cost of the group life insurance and will pay the entire cost of the protection for all other employes. It will also pay the greater portion of the cost of the new retirement program for nonacademic employes, which provides for annuities after retirement, normally at age 65, on the basis of service both before and after the effective June 1 date.

Bill Threatens Tax Exempt Enterprises

WASHINGTON, D.C.—Representative Mason (R-Ill.) has recently filed a bill in Congress in which he suggests the imposition of income taxes on certain exempt corporations, such as colleges and universities. Mason's bill has been referred to the ways and means committee, of which he is a member. Congressman Mason called attention to the fact that a certain proportion of the profits of the pari-mutuel machines at the famous Kentucky Derby track will now go to the University of Louisville. He also referred to enterprises operated by the University of Michigan, New York University and Wittenberg College, all such enterprises being operated on a tax exempt basis.

Business Recession Should Not Affect College Enrollment

WASHINGTON, D.C.—The recession, now officially recognized by Washington, may end soon after Labor Day, coinciding with the opening of the 1949-50 school year.

That, at least, is the view of one school of economists. They argue that the business decline felt during most of 1949 is more than half over.

A second group of analysts, however, maintains that a pickup in business cannot be expected before the second quarter of 1950. These observers insist that the business decline is less than half over and must continue for at least 12 more months.

Both groups, however, agree that the economy is not heading for a serious breakdown. Improvement in business is expected by both schools of thought. They disagree only in timing. One reason that most analysts expect business activity to pull out of its slide is that inventories of produced goods are being rapidly depleted. Production must soon be resumed on a larger scale to replenish wholesalers' stocks.

Few government experts wish to comment officially on the relation between economic conditions and college enrollments next fall beyond saying that whatever the economic trend, the results would have "mixed effects" on education.

A continued recession in the fall would throw more veterans out of jobs, bringing many of them back to the campus until their entitlement is exhausted, but this same recession would keep many high school graduates from enrolling because of lack of finances. Improved economic conditions would lower veterans enrollment but increase applications from high school graduates.

Pay Roll Guards Held Up at Columbia

NEW YORK CITY.—A daring daytime hold-up of pay roll guards at Columbia University netted $19,565 for two robbers. The hold-up took place on the steps of the university's chief administration building at 9:25 a.m.

The money was taken from two guards of the Wells Fargo Armored Service Corporation. It was being carried in two canvas bags to the bursar's office. This was reported to be the first robbery for Wells Fargo but was the second such occurrence for Columbia within the past year.

W. Emerson Gentzler, bursar of Columbia University, stated that $12,000 of the stolen money was being procured to cash checks of university maintenance personnel. The remainder was needed for routine administrative expenses, to cash students' checks, and for the university cashier's office.

WASHINGTON AT A GLANCE

WASHINGTON, D.C. — Measures seeking loans and grants for college faculty and student housing will be taken up by the House ways and means committee only after January 1950. . . . Worried over the large number of veterans who are preparing for a limited number of occupations—primarily those in business, engineering and mechanics—the V.A. asked the U.S. Labor Department to study the employment outlook in occupations toward which veterans are concentrating. . . . The U.S. State Department hopes that more colleges and universities will "adopt" overseas institutions, as one means of fostering world good will. . . . Thirty-four colleges and universities now own and operate standard broadcast radio stations, a new federal communications commission checkup shows. . . . Staff members of the National Advisory Committee for Aeronautics may take off a year to carry on graduate study and research in schools of their choosing, under a bill passed by the House and sent to the Senate for final action. Tuition must be paid by the employe, but he will lose neither his pay nor his leave of absence while studying. He must, however, agree to return to his job after a year. . . . Supporters of federal aid-to-education measures for lower schools were "shocked" by Dwight Eisenhower's letter attacking grants to all states and mildly endorsing it to poor ones.

Eisenhower Favors Federal Aid Only in Poor States

WASHINGTON, D.C.—Gen. Dwight D. Eisenhower, president of Columbia University, recently directed a letter to Representative Gwinn (R.-N.Y.) strongly criticizing the centralization of power in the federal government. The statement was made in opposing federal grants to help schools in all states.

Gen. Eisenhower stated that in areas in which tax revenues are low, he "would heartily support federal aid, under formulas that would permit no abuse, no direct interference of the federal authority in education processes and no opportunity to expand the flow of federal money into areas where need could not be clearly demonstrated.

"I would flatly oppose any grant by the federal government to all states in the union for educational purposes," President Eisenhower stated.

Tuition Abolished in Argentine Universities

BUENOS AIRES, ARGENTINA.—According to a recent dispatch from Argentina's president, Juan Perón, tuition and related fees for university students have been abolished in order to make higher education available to all those who wish to educate themselves "for the good of the country."

The Perón administration took over the operation of the six national universities in May 1946. Under this new ruling the six institutions will be "absolutely free" for Argentine youths. In order to finance the universities, a 2 per cent pay roll tax was written into the legislative books which all employers in the country must pay toward the support of the universities.

No Loyalty Oath at Yale

NEW HAVEN, CONN.—Dr. Charles Seymour, president of Yale University, reported at a recent alumni meeting that he had advised his faculty he would not ask them to take a loyalty oath. He stated that if the federal government dictated "what books our students should read, we had better close our doors." At the same alumni meeting, Dr. Seymour stated that no Communists would be appointed to the faculty of the university. He indicated, however, that he is in opposition to any "hysterical witch hunt."

11 Countries Exchange Students Under the Fulbright Program

WASHINGTON, D.C. — More than 600 American students — the largest contingent since passage of the Fulbright Act — will leave the United States this fall to enroll in colleges and universities of England, France, Netherlands, Belgium, Italy and Norway.

In turn, an exchange group of about the same size will arrive in the United States in September under the Fulbright program.

To date, the State Department has negotiated Fulbright agreements with 11 countries. In addition to the nations named above, Philippines, Greece, China, Burma and New Zealand have completed arrangements to exchange students and other types of educational workers.

No appropriation by Congress is needed for these exchanges since the plan is financed from the sale of surplus property abroad. During State Department appropriations hearings, however, Congress made clear that it would frown on students coming in from Communist dominated countries. That is why the 1949-50 exchanges are primarily with Marshall Plan nations.

Fate of student exchanges under the Smith-Mundt Act will not be known until the 1950 State Department appropriations bill comes out of conference. Informal reports from executive committee sessions indicate, however, that Smith-Mundt activities will be drastically curtailed next year.

Nebraska Regents Fear Subversive Texts, Profs

LINCOLN, NEB.—The board of regents of the University of Nebraska recently incorporated into its governing policy a resolution of strong opposition to subversive doctrines.

According to the latest reports available, the resolution stated that textbooks that openly or surreptitiously endorse subversive doctrines of government shall be barred from use in the classrooms. No objection is raised to honest and fair discussion of various forms of government provided the author does not use this freedom to plant the seed of subversion. It was stated that no one who has associated with, or is a member of, groups that seek to overthrow our form of representative government will be permitted to teach at the university. The regents stated that they will continue to insist that the university remain free from un-American influences.

A similar resolution was adopted at the last annual session of the Association of Governing Boards of State Universities and Allied Institutions.

Financial Problem Keeps Majority of High School Graduates from College

WASHINGTON, D.C. — Lack of money, not lack of interest, keeps the largest majority of able high school graduates from enrolling in colleges and universities.

Such is the opinion of the 15,600 high school graduates who were interviewed in 1947-48 by the staff of Elmo Roper, public opinion analyst. Both opinions and conclusions are now available in the new American Council on Education study, "On Getting Into College."

Two-thirds of the graduating white high school students want to go to college, but only one of every three applies for admission to institutions of higher learning, presumably because they know they can't afford it.

Additional large numbers of graduating high school seniors said they would continue their studies if they could get scholarship and other financial aid.

Commenting on the study, Dr. George F. Zook, American Council on Education president, said: "It is apparent that only one in four white high school seniors has no interest in going to college. This refutes the assumption that present enrollment in our institutions of higher education is as large as it can be because those not in college do not want to go. The importance of various barriers, including the economic factor, is a strong argument for a national system of scholarships and for further consideration of changes in admission policies in higher education."

Final conclusions indicate that although practically the same percentages of Catholic, Jewish and Protestant students are admitted to colleges and universities, Jewish students are less likely to get into the institution of their first choice. Jewish students are forced to apply to more than twice as many schools as Catholic or Protestant students before being admitted.

Requests Additional Millions as G.I. Students Increase

WASHINGTON, D.C.—In a surprise move, the Veterans Administration asked Congress for $8,600,000 "for additional administrative expense" to screen applicants for education and training.

Administration officials told Congress the money will be used to hire additional staff whose job it will be to review applications of veterans reentering school and college after having completed the course of training that they originally selected for readjustment purposes.

V.A. officials add that the increase in reviewing activities of veterans' needs in undertaking new types of training "is made necessary by the recent sharp rise in the number of veterans seeking training at a time when the number should be gradually declining."

Observers attribute the rise in veteran applications to schools and colleges to sagging economic conditions and increasing unemployment among veterans. Jobless veterans are said to be seeking readmission to training as a method for assuring themselves some income through the G.I. bill educational entitlement.

An additional factor in the rising number of veterans seeking schooling is expiration of enrollments under the Voluntary Recruitment Act of 1945. More than 1,000,000 men who volunteered for service immediately after the war are now taking off their uniforms. Many of these are already applying for education and training promised them under the G.I. Bill of Rights.

The V.A. request for the additional $8,600,000 is still being studied by Congress. V.A. appropriations, along with other federal money bills, are tied up in committee executive sessions, it is reported.

Thievery Epidemic at N.Y. City College

NEW YORK CITY.—City College of New York officials report the operation of sneak thieves for the fourth time in a month at the City College campus.

In most cases, the theft was money or jewelry taken from wallets or pockets of people in residence halls. The thefts were made after the residents had retired for the night.

New V.A. Regulation Clamps Down on Vets' "Consumable" Supplies

WASHINGTON, D.C.—A new Veterans Administration regulation serves notice on schools and colleges offering vocational training that the government will be more critical before paying educational institutions for "consumable instructional supplies" used by veterans.

The new regulation (Change 11 to Manual 7-5) defines "consumable supplies" as materials "which are required for instruction, are easily destroyed or expended, and which have to be replaced, without adding to the value of the institution's physical property."

Examples of supplies for which the V.A. will pay are chalk, nails, sandpaper, abrasive wheels, and laboratory glassware.

To receive payment for such supplies, they must be entirely consumed in a classroom project. Or, if not actually consumed, they must be of such nature that they cannot be salvaged for reuse.

The V.A. stressed that it will not authorize payments for supplies that (1) can be salvaged from an end-product and reused; (2) are used to produce an end-product with a value equal to or greater than the cost of the materials used in making it; (3) are used in making an end-product of permanent value to the school, and (4) are used to repair or improve an article furnished by a third party, for which he otherwise would pay a commercial price. (Example, supplies used for repairs on an automobile during a course in auto repairs will not be paid for.)

Private and State Negro Colleges in Competition

HAMPTON, VA.—At a recent meeting of administrators of private colleges for Negroes in the South, it was stated that the institutions are being hard pressed to maintain standards in salaries, equipment and housing in competition with government financed institutions. State colleges are reported to have attracted many department heads and specialists with offers of better salaries and perquisites.

The situation has been considered a crisis for many of the private colleges because of the fact that many of them had broken away in recent years from ties with supporting religious organizations. Administrators contended that Negro recognition of responsibility of Southern States in Negro education has stimulated "a quiet raiding of private college campuses to build up the state institutions."

Financial difficulties faced by private schools led to the organization of the United Negro College Fund, Inc., which has realized about $1,000,000 annually for the last five years for 32 private and accredited Negro colleges, most of them in the South.

Texas Gets War Plant

AUSTIN, TEX.—University of Texas officials reported that the War Assets Administration had recently approved transfer of the government owned surplus International Minerals and Chemicals Corporation plant here to the University of Texas. The plant was built at a cost of $8,000,000 and is situated on 393 acres of land. It has 28 buildings.

NAMES IN THE NEWS

Joseph Campbell, treasurer of Columbia University, has been appointed acting vice president in charge of business affairs. The appointment completes the reorganization of the university which was announced last March when three Columbia University administrators were named as vice presidents in major areas of the institution's activities.

P. A. Wagner

Paul A. Wagner, 31 year old executive of the Bell & Howell Company, has been named president of Rollins College, Winter Park, Fla. Mr. Wagner succeeds **Dr. Hamilton Holt,** 76 years old, who has headed Rollins College for the last 25 years.

Joseph Pennepacker, dean of Iowa Wesleyan College, Mount Pleasant, Iowa, has been named by the board of trustees to serve as acting president until a successor to **Stanley B. Niles** can be appointed.

Dr. Mason W. Gross on July 1 became provost of Rutgers University, New Brunswick, N.J., according to an announcement by **Dr. Robert C. Clothier,** president of the university.

M. Clapp

Margaret Clapp, 39 years of age, on July 1 assumed the presidency of Wellesley College, Wellesley, Mass. She succeeds **Mildred McAfee Horton.** Miss Clapp, assistant professor of history at Brooklyn College (New York) since 1947, was awarded the Pulitzer prize in 1948 for her biography, "Forgotten First Citizen: John Bigelow."

Harry L. Wells, vice president and business manager of Northwestern University, Evanston, Ill., has received the honorary degree of Doctor of Laws from Lawrence College, Appleton, Wis., on the occasion of the college's 100th commencement.

M. E. Drake

Dr. M. Ellis Drake has been named president of Alfred University, Alfred, N.Y. He has been associated with the university in various teaching and administrative capacities for 23 years and, during the past year, has served as acting president.

F. L. Jackson, treasurer of Davidson College, Davidson, N.C., has been awarded the honorary degree of Doctor of Laws by King College, Bristol, Tenn.

Rev. James E. Walter, staff member of the Congregational Christian Missions Council, has been named president of Piedmont College, Demorest, Ga.

Rev. Samuel S. George, dean of the University of Dubuque, Dubuque, Iowa, has been appointed president of Jamestown College, Jamestown, N.D., to succeed the late **Howard James Bell Jr.,** who was killed last winter in an automobile accident.

O. W. Wake

Orville W. Wake, assistant state supervisor of high schools in Virginia, has been named president of Lynchburg College, Lynchburg, Va. He will succeed **Riley B. Montgomery,** who recently was named to the presidency of the College of the Bible, Lexington, Ky.

NEWS

D. H. Cooke

Dr. Dennis H. Cooke, director of teacher training at Woman's College of the University of North Carolina, Greensboro, has been named president of High Point College, High Point, N.C. Dr. Cooke will succeed **Gideon I. Humphreys.** He is expected to take office in the fall.

Albert C. Jacobs, provost of Columbia University, has been named chancellor of the University of Denver. Mr. Jacobs will take office in September after he completes his work at Columbia. He has been administrative assistant to **Gen. Dwight D. Eisenhower** since March.

Perry Hayden, assistant to **Charles Gorman,** controller of the University of Nevada, Reno, has been appointed to succeed Mr. Gorman. Mr. Gorman recently resigned, as has the president, **John O. Moseley.**

J. J. Theobald, dean of administration at City College, New York City, has been elected president of Queens College, Flushing, N.Y., to succeed **Paul Klapper. Margaret V. Kiely,** dean of Queens College, has been serving as acting president since the retirement of Dr. Klapper in 1948.

J. G. Kemper

H. P. Barnhart

John G. Kemper of Butler, Pa., has been appointed manager of dormitories and dining halls at Alfred University, Alfred, N.Y. He succeeds **H. Philip Barnhart,** who recently was named to the position of foods director of the University of Oregon at Eugene. Mr. Barnhart assumed his new duties at Oregon on July 1.

T. Moore

Terris Moore, former president of the Boston Museum of Science, assumed his new duties as president of the University of Alaska at College on July 1. He succeeded **Charles E. Bunnell.**

Rev. E. Tipton Carroll, pastor of the Christian Church at Dothan, Ala., will assume new duties on August 1 as assistant to the president of Transylvania College, Lexington, Ky.

Lawrence Dade Shinn, president of the Vacation Valley Corporation in Philadelphia, has been named business manager of Wilmington College, Wilmington, Ohio, by **Dr. Samuel D. Marble,** president.

Ray Palmer Baker, dean of students at Rensselaer Polytechnic Institute, Troy, N.Y., has been named vice president.

Morton A. Rauh, 37 year old writer for technical and scientific publications, has been appointed business manager of Antioch College, Yellow Springs, Ohio. Mr. Rauh is a graduate of Harvard University.

J. C. Warner, dean of graduate studies at Carnegie Institute of Technology, has been named to succeed **Robert E. Doherty** as president when Dr. Doherty retires on July 1, 1950. In the interim Dr. Warner will serve in the newly created office of vice president.

Rev. Cecil A. Jarman, pastor of the First Christian Church at Wilson, N.C., has been named acting president of Atlantic Christian College, also at Wilson. **Prof. J. M. Waters** has been appointed business manager.

Helen May McKinstry, president emeritus of Russell Sage College, Troy, N.Y., died recently at the age of 71. She was president of Russell Sage College from 1942 to 1948.

Floyd L. Arbogast, purchasing agent at Bucknell University, Lewisburg, Pa., died recently after an illness of two months. **Carl Geiser** has been appointed as his successor.

Augustus M. Ryon, retired educator and businessman, died at his home in Flushing, N.Y., at the age of 87. He founded the School of Mines of the College of Montana in 1888. In 1893 he was named the first president of Montana State College, Bozeman.

DIRECTORY OF ASSOCIATIONS

Association of College and University Business Officers

Central Association

President: Herbert Watkins, University of Michigan; secretary-treasurer: L. R. Lunden, University of Minnesota.

Eastern Association

President: Boardman Bump, Mount Holyoke College; secretary-treasurer: Irwin K. French, Middlebury College.
Convention: December 4-6, Chalfonte-Haddon Hall, Atlantic City, N.J.

Southern Association

President: C. B. Markham, Duke University; secretary-treasurer: Gerald D. Henderson, Vanderbilt University.

Western Association

President: Paul A. Walgren, University of Southern California; secretary-treasurer: George A. Hall, California Institute of Technology.

Schools for Negroes

President: V. D. Johnston, Howard University; secretary: L. H. Foster Jr., Tuskegee Institute.

Association of College Unions

President: Donovan D. Lancaster, Bowdoin College; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.

Association of Physical Plant Administrators of Universities and Colleges

President: L. L. Browne, University of Arkansas; secretary-treasurer: A. F. Gallistel, University of Wisconsin.
Convention: Yale University, New Haven, Conn.

American College Public Relations Association

President: E. Ross Bartley, Indiana University; secretary-treasurer: Edward P. VonderHaar, Xavier University, Cincinnati.

College and University Personnel Association

President: Donald E. Dickason, University of Illinois; secretary-treasurer: Marion Darr, Purdue University.

National Association of College Stores

President: Herbert Hays, Berea College; executive secretary: Russell Reynolds, 189 West Madison Street, Chicago.

National Association of Educational Buyers

President: Holger B. Bentsen, George Williams College; secretary-treasurer: Bert C. Ahrens, 45 Astor Place, New York, N.Y.
Convention: May 3-6, 1950, Houston, Tex.

PRODUCT INFORMATION

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Single-Case Projector

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Vision Strip Glass Block Window

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241 The Cleveland Range Co.
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Key

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Glass Washing Manifold

250 Califone Corp.
Universale Transcription Player

251 Underwood Corporation
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252 National Gypsum Co.
Acoustical Plaster

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255 The Spencer Turbine Co.
Vacuum Cleaner

256 Armstrong Cork Co.
Corlon Tile Flooring

257 Crane Co.
Corner Lavatory

Key

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260 Williams Iron Works, Inc.
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"Lyon Steel-Wood Products"

262 Johns-Manville
Brochure on Rock Cork Felt

263 P. O. Moore, Inc.
"The Missing Link"

264 Olson Mfg. Co.
Booklet on "Lusterized" Glass

265 B. H. Lawson Associates, Inc.
Booklet, "Fund Raising"

266 The Montgomery Mfg. Co.
Catalog of Montgomery Timers

267 United States Bronze Sign Co., Inc.
"Bronze Tablets"

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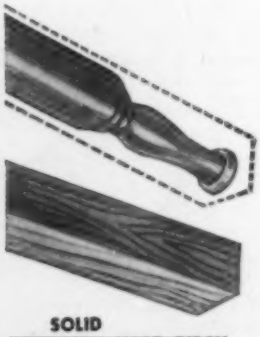

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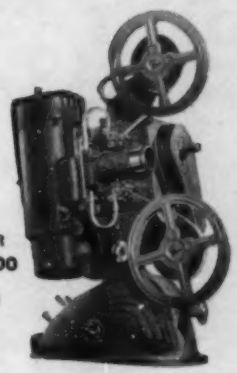

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Substantial price reductions on the complete Ampro line give *double* assurance that Ampro offers you the tops in projector values. These new low prices apply to regular standard Ampro models—in which full Ampro quality is maintained in *every* detail. These are machines which are built *up* to high standards, not *down* to a price. They are rugged, trouble-free, easy to operate—efficient in illumination, rich in tone quality—designed to give many years of satisfactory service.

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In the home, a lavatory is ordinarily used only four or five times a day. Here, hundreds. At home, plumbing may be treated with care. Here—well, you know students!

Luckily, Crane knows them, too. And knowing that they multiply the wear on plumbing, Crane multiplies its strength. School lavatories, fountains, closets, showers—Crane builds extra toughness into every one.

The result, *lower maintenance* for Crane school fixtures. And that means *all* fixtures—all types, all styles—Crane supplies *everything* in school plumbing.

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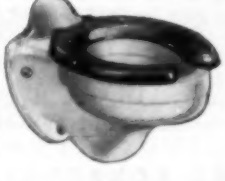
TOUGH! *Crane* Dial-ese *faucets respond at a finger's touch—yet the roughest handling won't harm them! Replacement is simply a matter of slipping out one cartridge unit and slipping in another—one unit fits all Crane faucets.*

TOUGH! *Colleges and universities the country over testify that Crane fixtures stay just like new after years of hard school usage.*

TOUGH! *Crane dependability extends to the whole installation—because Crane supplies not only the fixtures themselves, but also the piping that makes them work.*



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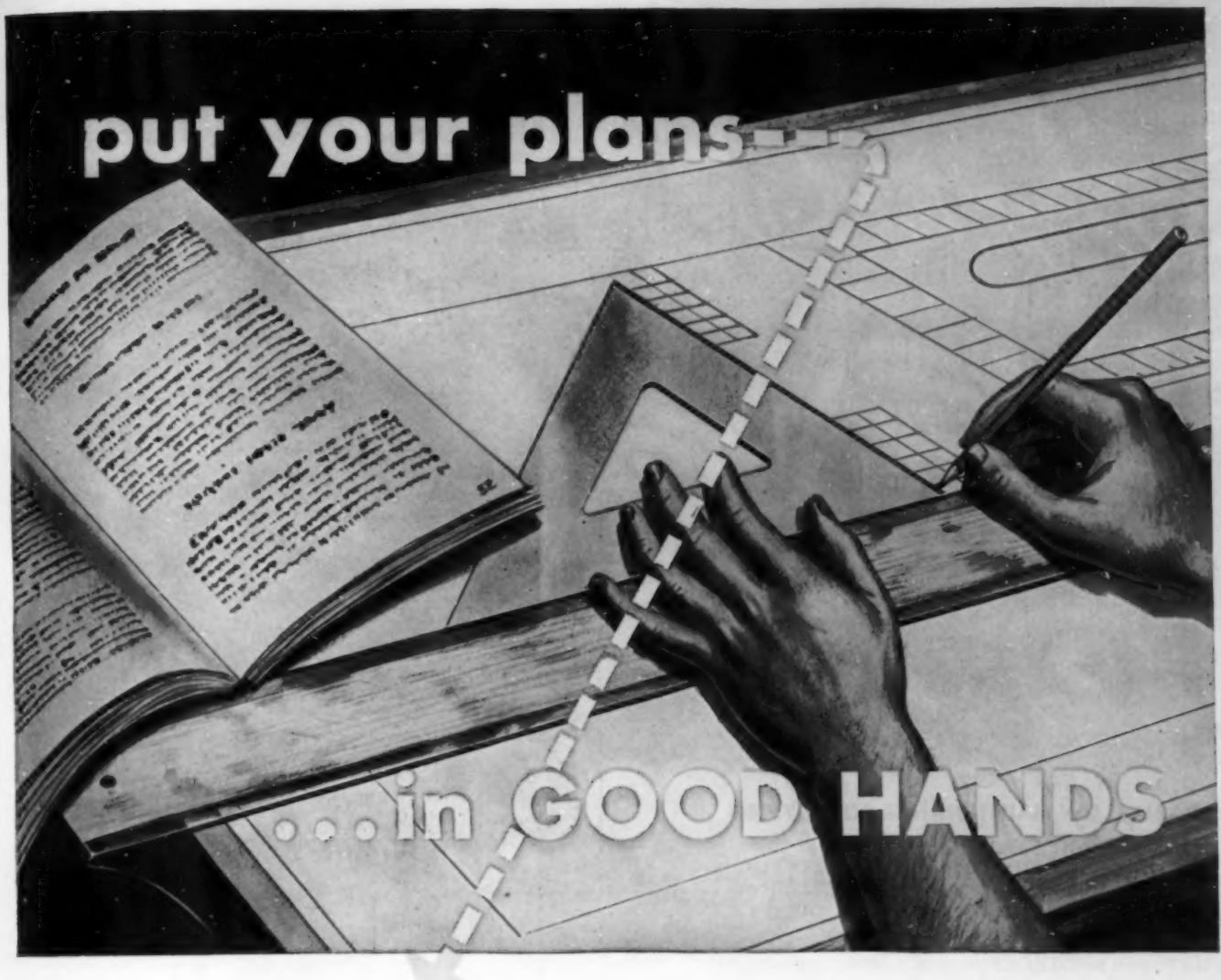

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Users report "Very Low Maintenance Cost and Dependable Operation". When you want these advantages in a control system for forced hot water heating contact our nearest office or write 2706 Greenview Ave., Chicago 14, Ill.

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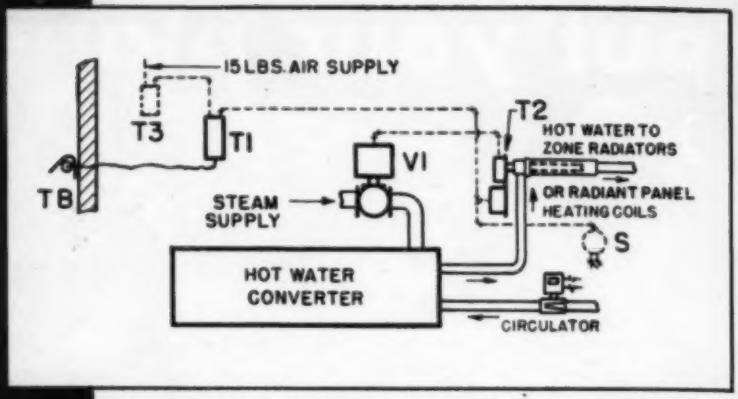
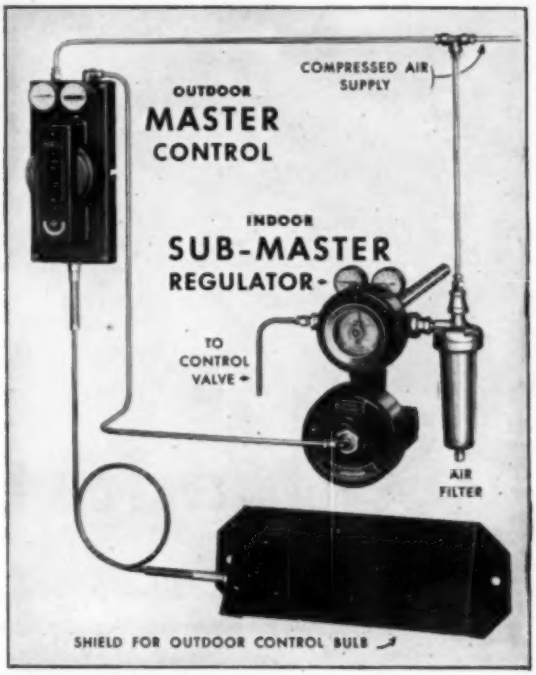
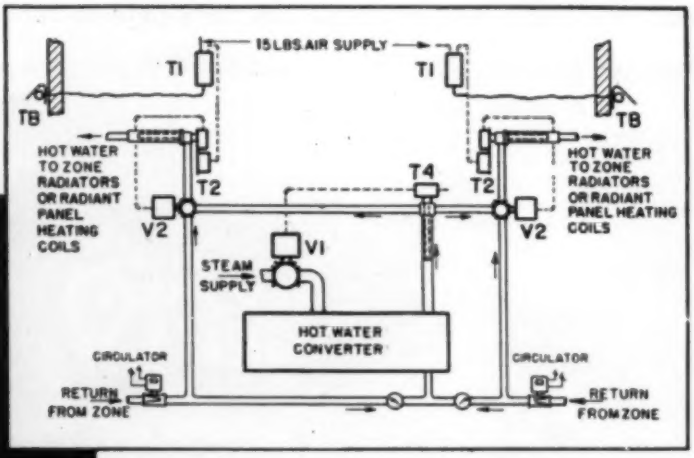


Above, POWERS MASTROL System Controlling Hot Water Supply for Single Zone with Pilot Room Thermostat. TB-Outdoor thermal bulb and shield. T1-Master control, T2-Sub-master regulator. T3-Pilot thermostat 68°F. for quick warm up (optional). V1-Diaphragm control valve for steam. S-Switch to automatically stop circulator when outdoor temperature is above 60°F., (optional).



Powers MASTROL Control System — One of several combinations of Powers Master-Sub-Master controls for Forced Hot Water Heating Systems.



MASTROL System Controlling Hot Water for Multiple Zones Using 3-Way Water Mixing Valves—TB-Outdoor thermal bulb and shield. T1-Master control. T2-Submaster regulator T4-Regulator for Maximum hot water control. V1-Diaphragm Control Valve for steam. V2-Three-way water mixing valve.

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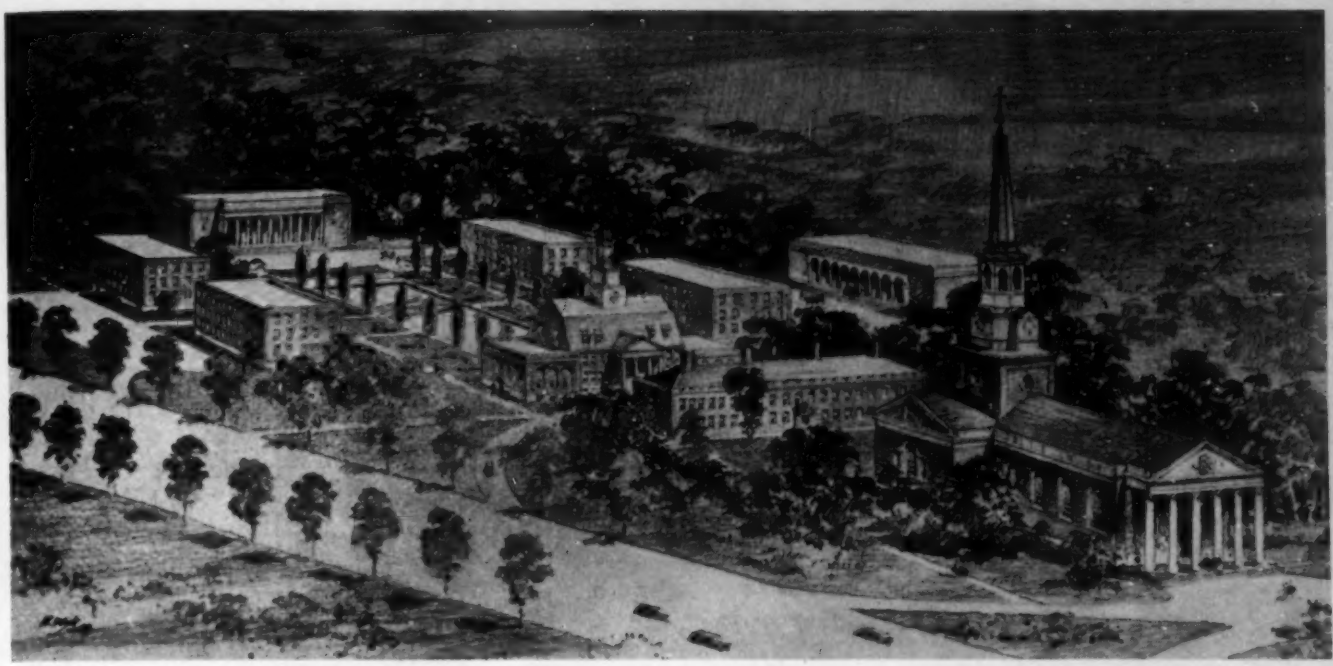

This is the campus of Merrimack College, Andover, Massachusetts, as it will look when present construction plans are completed. More than $1,100,000 has been raised for this new college in a Lawson Associates campaign which closed late last month.

In a campaign in which $1,000,000 was sought, $1,040,000 had been pledged by the middle of June.

We are particularly proud of this campaign for the following reasons:

1. Merrimack College is but two years old.
2. It has no alumni.
3. It has no powerful or wealthy friends.
4. It is located in an area where 22,000 men were out of work at the time of the campaign.
5. The funds obtained came not from foundations or philanthropists—they came for the most part from ordinary working men to whom the need for higher education had been brought home.

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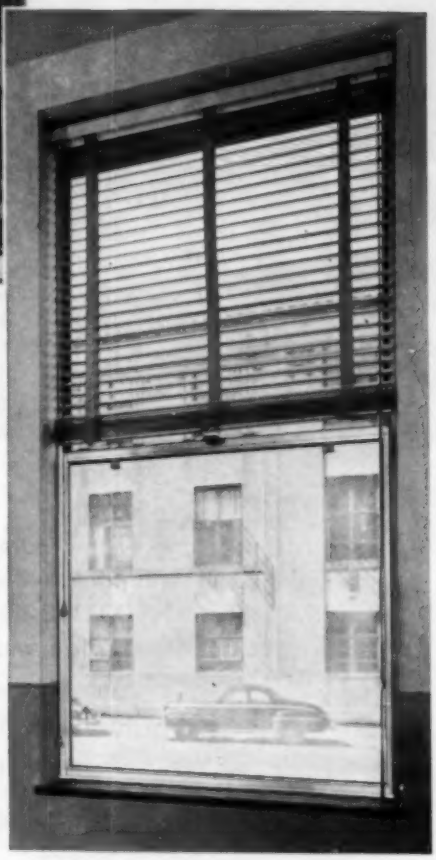

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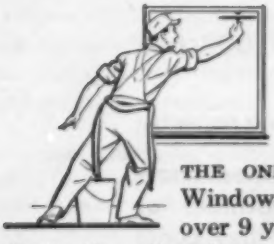

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Adlake Windows never warp, rot, rattle, stick or swell. They retain their good looks and easy operation for the life of the building.

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- Finger-tip Control
- No Warp, Rot, Rattle, Stick
- No Painting or Maintenance
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WHERE IS A BETTER opportunity afforded for development of uniformly high health standards, than in the classroom? There is ample evidence to show how educators have responded. Proper habits of diet, oral hygiene, correct seating for good posture, scientific lighting for better vision—all are examples.

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Yet maintaining correct atmospheric conditions is no longer a problem. Automatically, modern control systems perform the task, holding temperature and humidity at the required levels, regardless of outdoor weather fluctuations. For more than 60 years Honeywell has been the recognized leader in the field of automatic control. Honeywell's engineering staff is nation-wide, ready to consult at any time you wish about your individual control needs. Minneapolis-Honeywell, Minneapolis 8, Minnesota.
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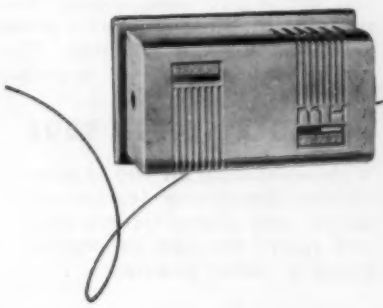

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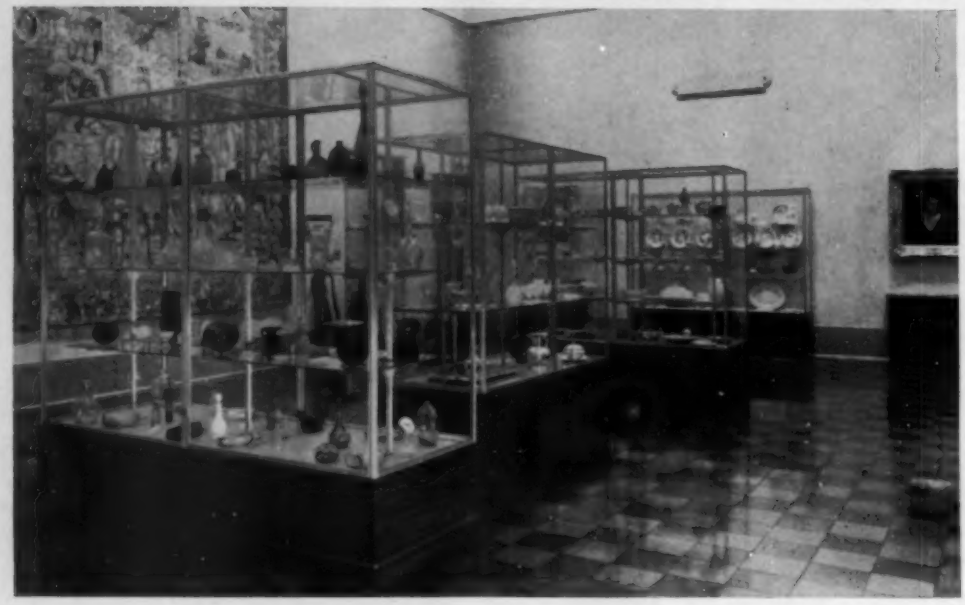

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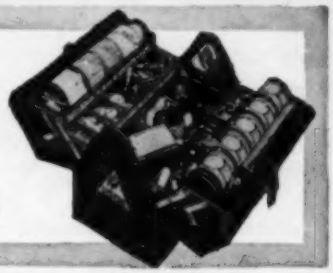

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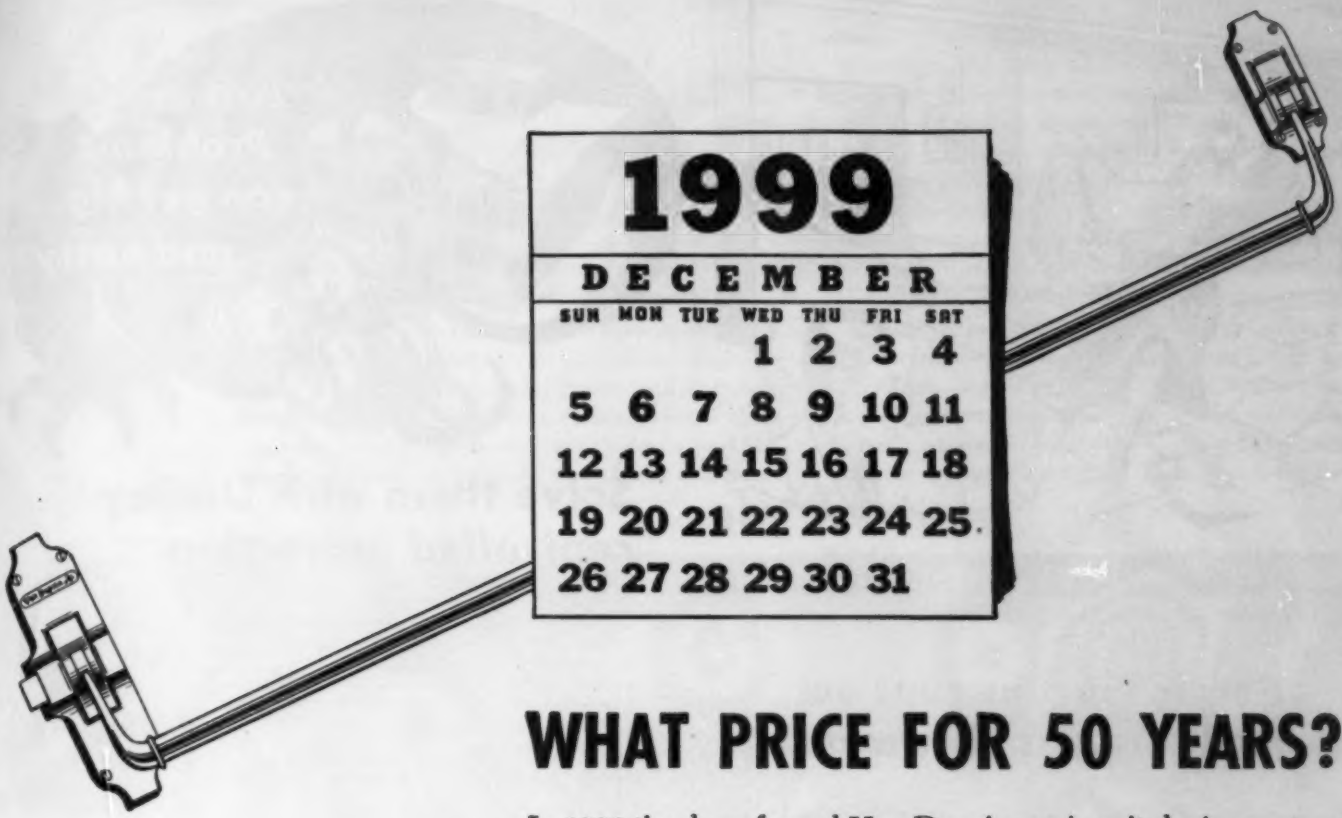

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In 1999 the drop-forged Von Duprin panic exit devices put on the doors in '49 will still be providing safe exit—quick, easy and sure.

They will have given the utmost in safety at little or no cost for maintenance. The first cost will have been virtually the only cost; the cost per year almost unbelievably low. Yet the Von Duprins will still show the beauty of their precision manufacture, the quality of the fine metals of which they are forged. They will be ready to deliver outstanding safety in the years ahead.

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Von Duprin

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Mr. Higby: Look what's happening! We wanted good-looking floors, but we got accidents. We want the floors taken out!

Legge Safety Engineer: The floors aren't at fault, Mr. Higby. It's that slick finish. They need a polish that's Non-Slip.

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Legge Safety Engineer: No doubt you have. It's a popular misconception. But your floors need polish to protect them. Besides, dirty-looking, unpolished floors would disfigure your offices. That's why Legge Non-Slip polishes are widely used . . . and recommended by leading casualty insurance companies. They preserve floors and give a good-looking shine. Yet they're up to 95% accident-proof. Give me a week and I'll prove it.

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Please send me a free, no-obligation copy of *Mr. Higby Learned About Floor Safety the Hard Way.*
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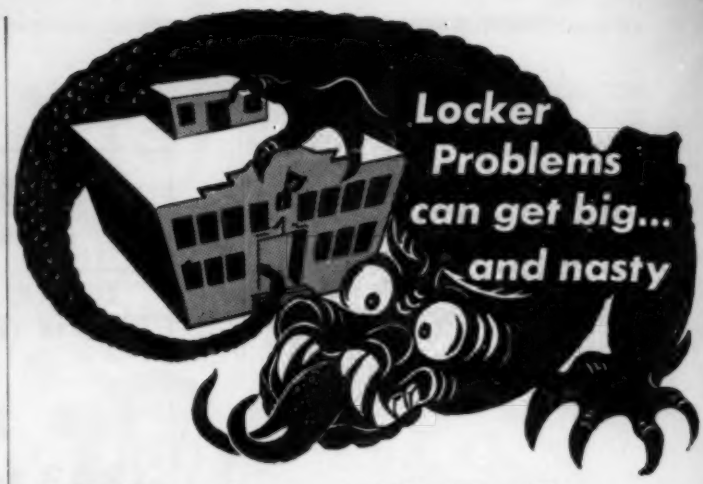

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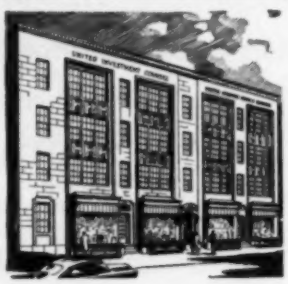

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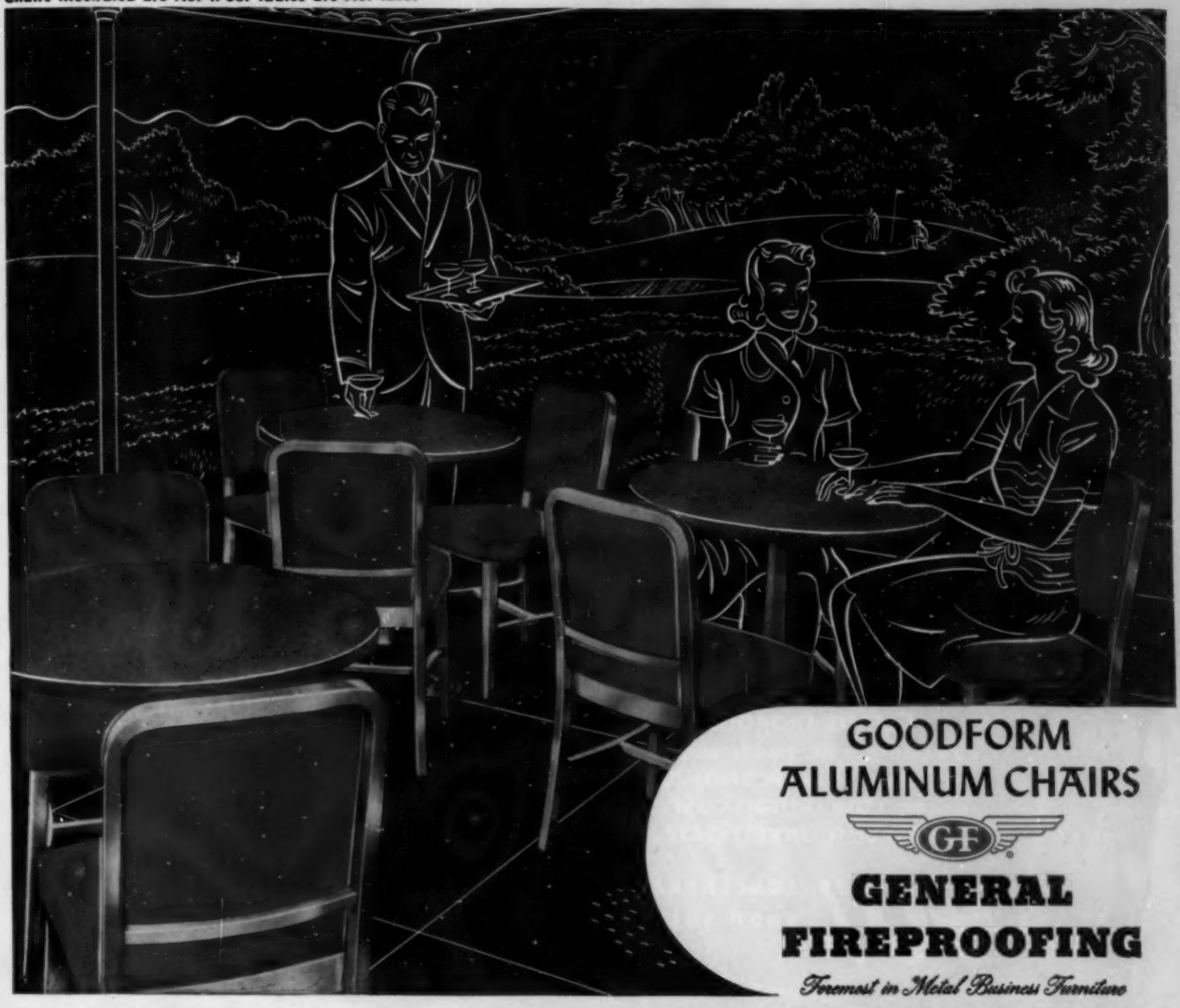

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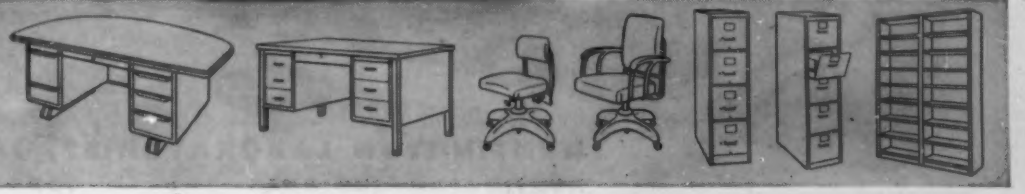

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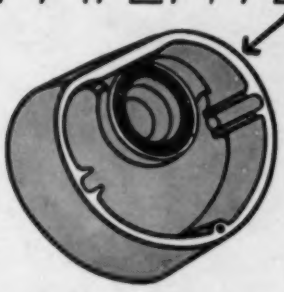

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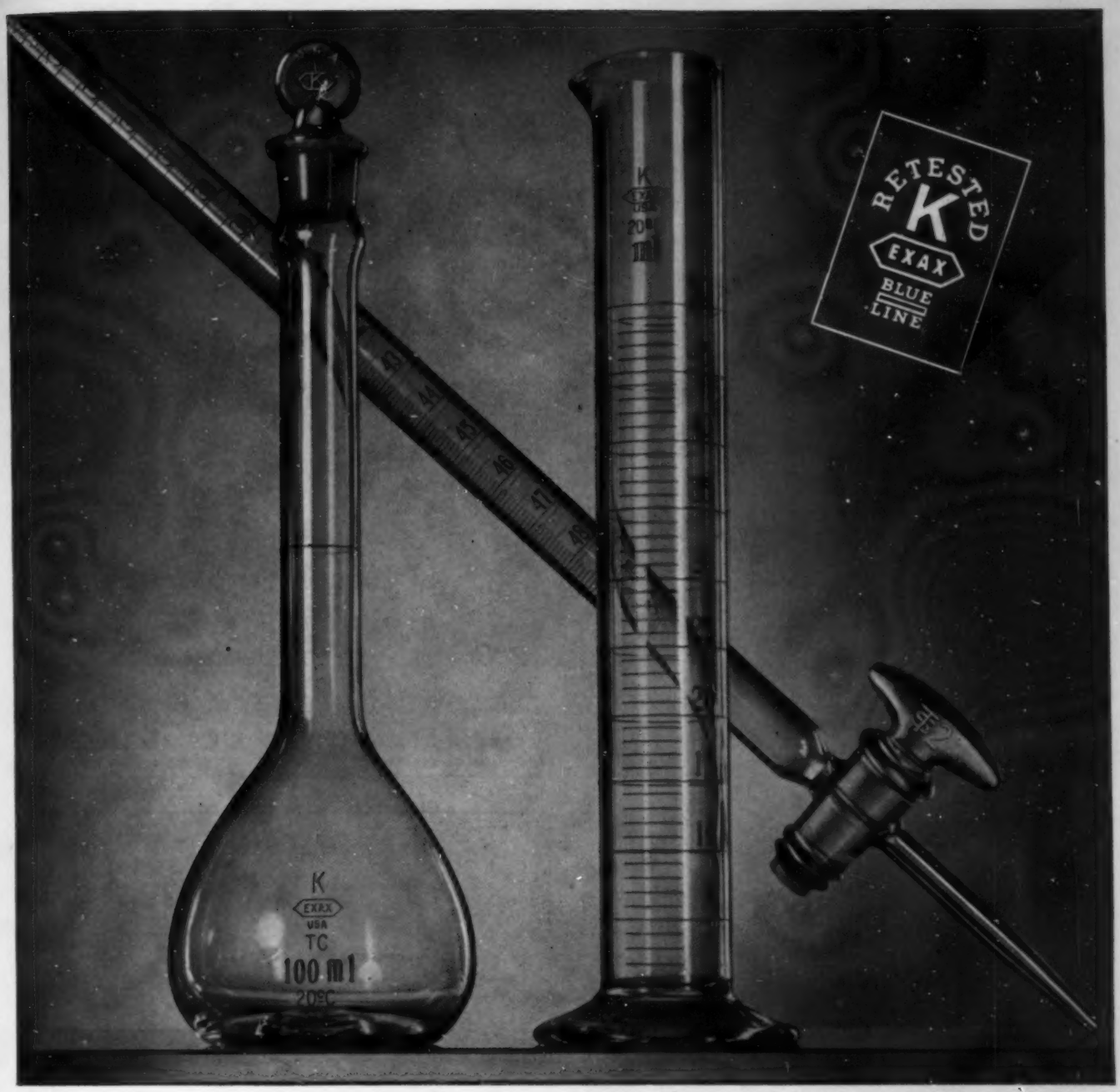

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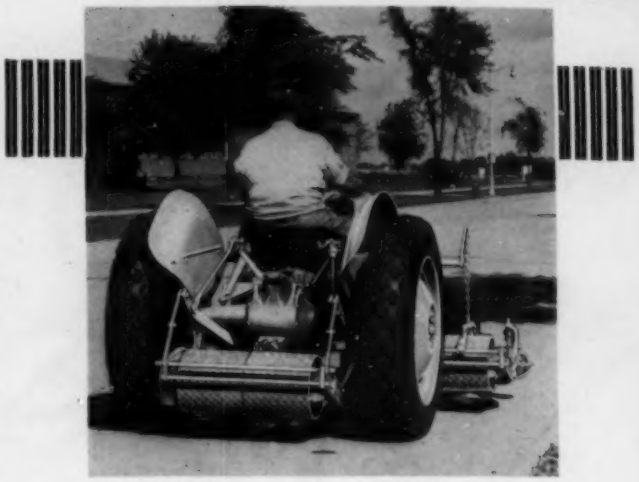

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WHAT'S NEW

JULY, 1949

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 40. Just circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Vericon Television System

The use of television for teaching is now possible with the Vericon Television System which was developed for use by the Army during the war and is now being made available for general use in education and business. The system is complete within itself, consisting of the camera or pick-up unit, the pulse-power unit and the master viewer and extensions. Its small size, operating simplicity and the fact that it transmits over a cable rather than through the air make it especially useful in teaching. Since it delivers its impulses over a coaxial cable, there is no need for FCC permission to broadcast. The system needs only to be plugged into any 110 volt, 60 cycle socket for operation.

Each of the three units of the system is light in weight, compact and completely portable. Once they are connected and initially adjusted the system is entirely automatic. The camera can be mounted in any position, horizontally or vertically, and is easily operated. The master control monitor and viewer has a 42 square inch screen with master controls for remotely operating the camera. The equipment is ruggedly designed to operate continuously over long periods and extension viewers may be hooked up to the master viewer and extended as far as 4000 feet away. Any normal television receiver of the commercial type can be used as a monitor.

The Vericon System can be used in any way in which television can serve in teaching. In bacteriology, pathology and similar subjects where the use of a microscope is required a large group of students can observe with the professor whatever is shown on the microscope slide. The use of the Vericon system in the teaching of surgery makes it possible for a whole class to view the operation at close range through the television screen. Technical and mechanical processes can be demonstrated to a large group or to several classes at the same time through the system with its extension viewers. Similarly, films can be shown over the system to several classes at one time from a central projection room, thus avoiding the necessity for transporting film and projector. The Vericon System offers wired, portable television which should prove of value in the solution of many teaching problems. **Remington Rand Inc., Dept. CUB, 315 Fourth Ave., New York 10. (Key No. 234)**

Cellular Glass and Concrete Walls

A curtain wall of cellular glass and concrete is now available for general use after study in actual service in buildings recently erected. The panels consist of cellular glass insulation cores and concrete veneers made up into thin, flat walls. They have been fabricated in several practical sizes and thicknesses for use in all basic curtain wall systems; spandrel (horizontal), vertical and bay-filling. The new walls are said to be readily adaptable to any design requirement and in erecting single or multi-story buildings, to reduce construction time, lower costs and make possible more usable floor space while providing permanent insulation. The walls are relatively light in weight and can even be salvaged for re-use.

The insulated wall panels are made in many sizes, the popular thickness being 6 inches; 2 inch cellular glass core with 2 inch exterior and 2 inch interior veneers. The exterior and interior faces of the insulated concrete panel require no additional finishing, unless desired. Glass block fenestration has been successfully cast in while panels are being fabricated and the panel wall is adaptable to any design, regardless of floor plan, window arrangement or structural skeleton. Both components of the new panel—PC Foamglas and concrete—are incombustible, therefore the fire resistance of the panels qualifies them for use under all fire codes. **Pittsburgh Corning Corp., Dept. CUB, Pittsburgh 22, Pa. (Key No. 235)**

Electric Drying Tumbler

An electrically heated tumbler, to meet the needs where other heating facilities are not available, has been added to the line of Zone-Air tumblers developed by American. The new unit embodies the same basic construction and operation features of the steam and gas heated models and completes the line of tumblers offered by the company, making it possible for it to serve the needs of all institutions, regardless of size or heating facilities. **The American Laundry Machinery Co., Dept. CUB, Cincinnati 12, Ohio. (Key No. 236)**

Football Scoreboard

The new Medart Football Scorer and Timer records time in minutes and seconds with time-left-to-play diminishing automatically each second. All numeral blocks are 2 feet high and 13½ inches wide, while the Scoreboard itself is 20 feet long and 16½ feet high so that it can be easily seen from all parts of the field. The reset mechanism permits setting time from 15 minutes down to any length of time desired.

Factory tested for hundreds of hours including outdoor weather tests and field testing during the season last fall, the new scoreboard has proved to be right, mechanically and in design, from the standpoint of operation and daylight visibility. The scoreboard is of all steel construction with numeral

blocks weather-proofed. **Fred Medart Products, Inc., Dept. CUB, 3535 De Kalb St., St. Louis 18, Mo. (Key No. 237)**

Single-Case Projector

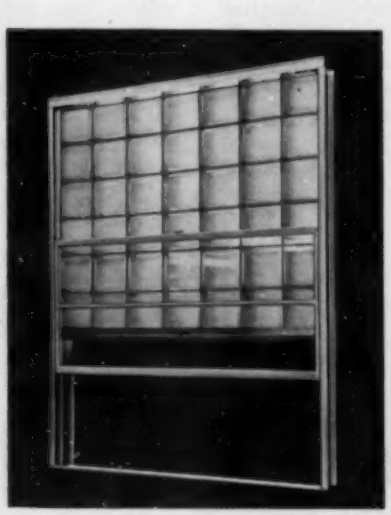
The RCA "400" Junior is a new single-case addition to the "400" series of RCA 16 mm. sound motion picture projectors. The new projector retains the high quality features of the RCA "400" series but is designed to meet the requirements for a one-case unit. The compact design was achieved through rearrangement of the 8 inch speaker and its incorporation in the lid of the case, which doubles as a speaker baffle. The speaker may be placed adjacent to the projector or next to the screen through the use of a 50-foot cable.

High speed gears made of nylon are used in the new Junior model for quieter operation and longer life. Operational features make the new model unusually cool running and selective speed change is accomplished mechanically. "Theatrical type" framing, which adjusts the position of the film in the gate without moving the aperature plate, is another feature of the new model. **Radio Corporation of America, RCA Victor Division, Dept. CUB, Camden, N. J. (Key No. 238)**

Vision Strip Glass Block Window

A glass block window with a sliding vision strip sash has now been developed for installation in conventional window openings. It is adaptable to any opening, large or small, and is strong and rigid enough to provide its own lintel. Frames are shipped completely assembled, ready for glazing and installation of the glass block.

The new window should have application for both classroom and dormitory windows, providing vision and ventilation with single pane or double glazing. The sliding sash makes it possible to wash the outside of the window in the same manner as any conventional double-hung window. The new windows may be used singly or in multiples and when installed in groups the jambs act as mullions, eliminating the need for additional intermediate structural members. **American Structural Products Co., Dept. CUB, Toledo 1, Ohio. (Key No. 239)**

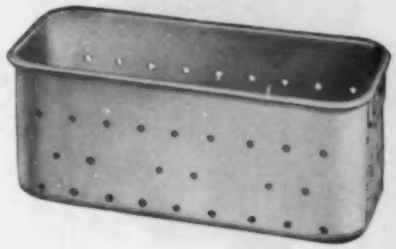


Stencils

The new Protect"O"Film is a new stencil with a clear, protective film designed to make stencil cutting easier, faster and more efficient. The elastic film covering keeps letters in place to produce uniformly perfect copy and protects against type filling. The film is easily lifted away from the stencil to make corrections. Both Royal Blue and Lettergraph brands of stencils are available with Protect"O"Film. **The Heyer Corp., Dept. CUB, 1850 S. Kostner Ave., Chicago 23. (Key No. 240)**

Steamer Baskets

A newly designed, round corner steamer basket has been developed for use with Steam-Chef steam cookers. A one piece drawn, seamless container of stainless steel, the basket has a new satin finish known as "Frostex" which is durable and said to be more resistant to chemical reactions of foods than earlier finishes. The new basket is available in either solid or perforated style, in various sizes and shapes, and is easy to clean. **The Cleveland Range Co., Dept. CUB, 3333 Lakeside Ave., Cleveland 14, Ohio. (Key No. 241)**



Plastic Base Coving

A new Vinyl plastic set-on-base coving for use with all hard surface floors, such as rubber, asphalt tile and linoleum, has recently been announced. It is available in lengths of 100 feet in one piece and is 4 inches high. The length permits average installations to be made without seams and without the necessity for pre-formed corners. The coving can be adhered to any type of wall with ordinary floor covering adhesives and has a high gloss finish which does not catch dirt readily and which can be easily cleaned. **Fremont Rubber Co., Dept. CUB, 287 McPherson Highway, Fremont, Ohio. (Key No. 242)**

Model 435 Mimeograph

The mimeograph operator can now sit in a standard office chair while working at her machine. The new Model 435 Mimeograph with Flexamatic control is a table model, electric-drive unit for use with all makes of suitable stencil duplicating products. Mounted on rubber feet, the Model 435 can be placed on a table, a desk or on the Model 27 stand with built-in "start and stop" foot-control or on the Model 22 cabinet with large enclosed storage space for supplies and pull-out shelf for additional working area. The machine is highly economical and efficient for general use and specialized mimeographing procedures. A number of new features add to its efficiency and ease of operation. **A. B. Dick Co., Dept. CUB, 720 W. Jackson Blvd., Chicago 6. (Key No. 243)**

Watering System for Laboratory Animals

A system for automatic watering of small animals, which has been used by commercial breeders, has been modified and improved to provide an automatic watering system for small laboratory animals. The Hart valve, about the size of the end of a fountain pen, is the basic principle of the system. When placed at the proper height, water is released through the valve to the animal's mouth at the slightest touch.

The valves are screwed into copper tubes of 23/32 inch diameter at spacings for each cage and the tubing is connected to a vertical tube leading to a pressure break tank maintaining a constant water level at a constant gravity pressure. Water is fed into the tank through connection with the water main. The system has been devised for use with rabbits, guinea pigs, hamsters, rats and other small animals used in the laboratory. **Bussey Products Co., Dept. CUB, 6000 W. 51st St., Chicago 38. (Key No. 244)**

Microfilm File

The new No. 8936R Microfilm File has been developed as the result of consumer surveys and collaboration with several manufacturers of microfilm equipment and film. It is an upright file with nine progressive roller suspension drawers having a total capacity of one hundred 16 mm. or sixty-eight 35mm. film reels per cabinet. Film drawers are partitioned to provide for four rows of film reels and each compartment has its own channel lever compressor.

Humidity is registered and controlled through an especially porous humidifying brick, that needs to be wet down only occasionally, in a drawer beneath the bottom film drawer and a Humidiguide gauge located in the face of the bottom film drawer. Thus too-moist or too-dry conditions can be checked and controlled to ensure safe-keeping of the film.

The file cabinets are available in both olive green and Neutra-Tone gray finishes with white metal drawer pulls and label holders, with or without cabinet lock. **Yawman & Erbe Mfg. Co., Dept. CUB, Rochester 3, N.Y. (Key No. 245)**

Meat Chopper

The new Biro meat chopper is compact and streamlined in design without projecting or overhanging parts. A large capacity tray of the same size as the chopper case is a feature of the new machine. All gears are mounted on tapered roller bearings floating in oil, including thrust bearing, eliminating washer and power loss. The new chopper is powered by a ¾ h.p. specially built motor and is finished in burnished aluminum and white enamel. **The Biro Mfg. Co., Dept. CUB, Marblehead, Ohio. (Key No. 246)**

Freeze Dryer

The new Stokes Model 2004-L self-contained freeze dryer with 12 square feet of shelf area is an efficient, compact, flexible unit designed for research and development technicians in hospitals and universities. Any type of product, in bulk or in containers, can be handled easily and with a minimum of attention. The device is so designed as to simplify installation, operation and servicing. **F. J. Stokes Machine Co., Dept. CUB, 5900 Tabor Rd., Philadelphia 20, Pa. (Key No. 247)**

Automatic Orange Juicer

An electrically operated machine which cuts oranges, squeezes and strains the juice all in one operation has recently been announced. Dispensing juice at the rate of 18 oranges per minute, automatically discharging the skin, pulp and seeds into a disposal unit, the Morey Automatic Orange Juicer should prove especially practical for use in kitchens and cafeterias. An adjustable

chute allows oranges of all sizes, limes or grapefruit to be squeezed at the same rate of speed.

The body of the juicer is made of aluminum and all metal parts that come in contact with the juice are of stainless steel. The unit is powered by a ¼ h.p. motor and can be completely dismantled, cleaned and ready for immediate re-use in approximately one minute. **Morey Food Machinery Co., Dept. CUB, 30 Church St., New York 7. (Key No. 248)**

Glass Washing Manifold

A new lower spray manifold for use in Autosan Models R-16 and CU-16 dishwashing and sanitizing machines has recently been developed to handle all varieties of glasses and to give complete wash and rinse coverage of all surfaces. Six wash spray tubes and 12 rinse nozzles, below the glassware, direct a forceful spray on the glasses, both inside and out. The new manifold can be purchased as a complete unit or can be ordered on new CU-16 and R-16 dishwashers. **Colt's Mfg. Co., Dept. CUB, Hartford, Conn. (Key No. 249)**

Transcription Player

The Califone Universale is a new, light weight universal transcription player which is portable and is designed for high quality sound reproduction from standard and long playing micro-groove records as well as from transcriptions. The new wrist-action pickup arm has two needles on a reversible head for proper needle point and needle pressure for any of the recordings. The unit features a micro-grip turntable and a foolproof speed changer for both 33⅓ and 78 r.p.m. recordings. The system has a high quality amplifier and permanent magnet speaker with extension cord for positioning in room for best results. The unit is housed in a hardwood carrying case and is designed to provide a system with power adequate to handle an audience of up to 250 people comfortably. **Califone Corp., Dept. CUB, 1041 N. Sycamore St., Hollywood 38, Calif. (Key No. 250)**

Rhythm Touch Typewriter

The new Rhythm Touch De Luxe Model standard typewriter recently announced by Underwood is finished in Underwood gray and features a full 10 inch writing line with standard width carriage and a removable cylinder. Other features of the new machine include a completely enclosed machine back and other refinements of design resulting in quieter and easier operation; drop line space lever for ease, speed and accuracy of carriage return; new and deeper paper table and larger lateral paper guide; newly engineered cylinder knobs, deeply threaded for easier finger grip; larger variable line spacer plastic knob for easier and more accurate aligning; self-locking visible front margin stops located just above the keyboard; dual touch tun-

ing, and Finger-Form plastic key tops, concave and rimless. **Underwood Corporation, Dept. CUB, 1 Park Ave., New York 16. (Key No. 251)**

Acoustical Plaster

Gold Bond Acoustical Plaster is a new product designed to provide "built-in" sound conditioning. Employing a new lightweight aggregate as the base of its formula, the new plaster is light and easy to handle and to apply. It is provided in 4 shades; natural, ivory, cream and buff. It is designed as a finish plaster requiring no decorating, although it may be spray-painted without appreciable loss of sound absorption.

The new plaster has a 70 per cent light reflection on the natural color material and its average noise reduction coefficient is .55. It can be adapted for use on flat surfaces, coves and barrel ceilings, around columns, in corners and on curves. **National Gypsum Co., Dept. CUB, Buffalo 2, N. Y. (Key No. 252)**

Guardian Safe

A new safe, suitable for holding papers and valuables in the office and designed to protect them from fire, theft and malicious damage, has been announced by Diebold. Known as the Diebold Guardian Line, the new safes carry the Class "C" tested fire rating from the Underwriters' Laboratories and Safe Manufacturers' National Association and comply with the U. S. Bureau of Standards' specifications, according to the manufacturer. A three-tumbler, key-changing combination lock secures the door and permits resetting the lock to any desired combination should it seem advisable with changes of personnel. **Diebold, Inc., Dept. CUB, Canton 2, Ohio. (Key No. 253)**

All-Purpose Mower

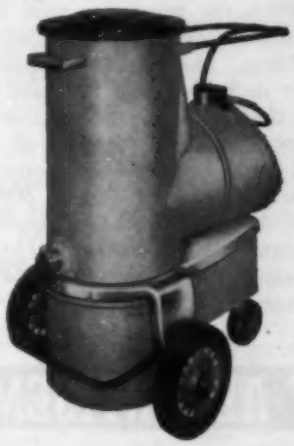
The Ariens All-Purpose All-Position precision mower is designed to operate in any position regardless of terrain and in many places previously inaccessable to a mower. The new mower attaches to an Ariens Tiller for sufficient power for any job and is designed to cut everything from the finest lawn to the toughest grass and weeds. Cutting height is readily adjusted to 1 inch, 1¾

inch or 2¼ inches.

The cutting bar is 42 inches wide but can be reduced to 28 inches from the right wheel for narrow mowing by reversing the mower hinge assembly to the left. The cutting bar is made up of 2 inch sections and is equipped with steel forged guards with integral ledger plates. Synchronization of blade travel with the forged steel guards is automatically maintained in all positions. **Ariens Company, Dept. CUB, Brillion, Wis. (Key No. 254)**

Portable Vacuum Cleaner

The Spencer Commercial Vacuum Cleaner is designed for fast, complete cleaning of all kinds of surfaces. It will clean classrooms, offices, auditoriums and other areas and is built for continuous service over the years at low maintenance costs. The unit is powered by a universal motor having a continuous rating of ¾ h.p. and a dirt can with a capacity of .875 cubic foot which is easily removed by a foot operated bar and rolled on its



own casters to the point of disposal.

The machine is readily portable by the hand rail at the top or a pull on the hose. It operates for long periods without loss of vacuum and the bag is cleaned without removal from the tank. Attachments permit use of the machine for the various cleaning needs. **The Spencer Turbine Co., Dept. CUB, 484 New Park Ave., Hartford 6, Conn. (Key No. 255)**

Tile Flooring

The result of years of research and experiment, Armstrong's new Corlon floor tile is made of a chemically reacted combination of plastics and is highly resistant to wear. The new tile has high grease resistance and high resistance to indentation. It is available in 10 rich colors, marbleized, and known as Gardenia White, Pewter Gray, Jet Black, Venetian Red, Desert Tan, Walnut Brown, Twilight Blue, Sand Taupe, Spruce Green and Wine Red. It is made in 4 sizes: 6, 9, and 12 inch squares and 18 by 36 inch rectangles, all in ⅛ inch gauge. **Armstrong Cork Co., Dept. CUB, Lancaster, Pa. (Key No. 256)**

Corner Lavatory

The new corner lavatory developed by Crane should be of interest for dormitory rooms and other places where space is limited. Known as the Vivian, the new lavatory is of vitreous china and is available in colors as well as in white. The overall size is 18 by 18 inches and the basin measures 16 by 11 inches with a depth of 6 inches at the outlet. Dial-ese controls, which utilize the water pressure to help shut off the flow, are operated by chromium-plated handles. **Crane Co., Dept. CUB, 836 S. Michigan Ave., Chicago 5. (Key No. 257)**

Blakeslee Mixers

The new line of Blakeslee mixers has been designed for more efficient operation and the new flowing lines facilitate cleaning. The variable speed control is a feature of the new models. A "V" belt drive permits changing to any speed by a simple turn of a hand wheel while the mixer is in operation. The beaters travel around the bowl as they rotate, thus assuring more even mixing. The new mixers are available in floor and bench models, in sizes ranging from 12 to 80 quart capacity, and they are finished in Duco or stainless clad construction. **G. S. Blakeslee & Co., Dept. CUB, 1844 S. Laramie Ave., Chicago 50. (Key No. 258)**

Dry Chemical Extinguisher

Outstanding features of the new dry chemical type fire extinguisher include longer range; longer duration of discharge; more complete discharge of the dry chemical contents; gas-tight, all-internal expelling gas connections; built-in safety disc, and light weight. The dry chemical is nontoxic, non-corrosive and will not freeze. It is recommended for flammable liquid and electrical fires and is a hand portable unit, known as No. 30 Alfco Dry Chemical. **American-LaFrance-Foamite Corp., Dept. CUB, Elmira, N. Y. (Key No. 259)**

Product Literature

• A new catalog of **"permanent and portable safe steel grandstands"** has been issued by the Williams Iron Works, Inc., 430 E. 102nd St., New York 29. General descriptive information, illustrations of sections and constructional data, pictures of installations both indoors and outdoors, diagrammatic drawings and detailed information on portable steel grandstands of various types, permanent steel grandstands, folding indoor grandstands and reviewing chair stands are included in the catalog. **(Key No. 260)**

• The complete line of **"Lyon Steel-Wood Products"** is illustrated in color and described in a leaflet issued by Lyon Metal Products, Incorporated, Aurora, Ill. Specifications, assembly diagrams, construction details, prices and other data on the shelving, lockers, locker racks and cabinets with steel framework and durable hard Masonite parts are included in the folder. **(Key No. 261)**

• A 4 page brochure, **"Rock Cork Felt Sided Roof Insulation,"** has been issued by Johns-Manville, 22 E. 40th St., New York 16. Illustrations show the insulation being applied and the text contains conductivity data and similar information of interest to architects, administrators and maintenance men. **(Key No. 262)**

• Eye-catching layout and type and amusing sketches tell the story of **"The Missing Link"**—a system for the control of keys. Starting out with the questions: 'Is there anything more essential than the keys to your offices, stockrooms, laboratories," and "Is there anything more exasperating and time-consuming than the temporary or permanent loss of an important key," the booklet carries through the story to the statement that "There's one other thing you can save with a Visible Index Key Control System (in addition to time, trouble and maintenance expense) and that is leakage of property and information." Data on the Visible Index Key Control System of P. O. Moore, Inc., 300 Fourth Ave., New York 10, designed to handle efficiently from 50 to 50,000 sets of keys, concludes the booklet. **(Key No. 263)**

• **"The 'Lusterized' Glass Entices Appetites"** is the title of a new booklet published by the Olson Mfg. Co., Albert Lea, Minn. How legal regulations can be met in kitchen and fountain by the use of the Lusterizer, the portable Olson glass washer which fits any sink, is discussed in the booklet. The Lusterizer is designed to turn out 700 to 800 clean glasses, devoid of lipstick or cloudy film, each hour with one operator. Details of operation of the Lusterizer are shown in drawings and text. **(Key No. 264)**

• **"Fund Raising"** is the cover title of an attractively prepared booklet further titled **"Your Appeal to the Public"** and issued by B. H. Lawson Associates, Inc., Rockville Centre, N. Y. Enlightening information is included on the factors necessary for an appeal to the public, why professional direction is needed, what the professional fund-raiser does and what is expected of you. **(Key No. 265)**

• A new **Montgomery Catalog** of low cost program timers, most of them especially adapted for use in educational institutions, has recently been issued by The Montgomery Mfg. Co., 549 W. Washington Blvd., Chicago 6. **(Key No. 266)**

• The varied uses of bronze plaques and signs are described in a 28 page booklet, **"Bronze Tablets,"** issued by United States Bronze Sign Co., Inc., 570 Broadway, New York 12. **(Key No. 267)**

Suppliers' News

Changes of address have been announced by the following companies:

Walter Maguire Co., Inc., from 330 W. 42nd St., New York 18, to **1000 N. Division St., Peekskill, N. Y.**

Standard Scientific Supply Corp., from 34 W. Fourth St., New York 12 to **61 Cornelison Ave., Jersey City 4, N. J.**

WANT ADVERTISEMENTS

The rates for want advertisements are: 10 cents a word; minimum charge, $2.50.

Address replies to COLLEGE AND UNIVERSITY BUSINESS, 919 N. Michigan Avenue, Chicago 11, Ill.

POSITIONS WANTED

Controller or Treasurer—Individual with considerable experience in university accounting and auditing; age 37, B.S. and C.P.A. Write Box CW 63, COLLEGE AND UNIVERSITY BUSINESS.

Business Manager—Small college; successful industrial purchasing agent and training supervisor; licensed architect; can work harmoniously in school situation; middlewest or northeast favored; Yale graduate, 36, single. Write Box CW 66, COLLEGE AND UNIVERSITY BUSINESS.

Physical Plant Manager—Competent superintendent of buildings, grounds and farm; experienced in heavy construction and in utilities maintenance; with a knowledge of power plant operation and of administrative ability inclusive of purchasing; readily available having served many years in college enterprises. Write Box CW 67, COLLEGE AND UNIVERSITY BUSINESS.

POSITIONS OPEN

Superintendent of Buildings and Grounds—A southwest school located in a city of 200,000 needs a man with organizational and administrative ability to supervise and direct an overall maintenance program; state age, education, experience and give references in application. Write Box CO 25, COLLEGE AND UNIVERSITY BUSINESS.

FOR SALE

MAGNIFICENT SKINNER ORGAN
now in
Heinz Auditorium, Pittsburgh, Pa.

This superb organ is four manual with 49 speaking stops, plus Harp and Chimes. Console equipped with all modern accessories including visible and adjustable combinations. Specifications on request.

Address: Purchasing Dept., H. J. Heinz Company, Pittsburgh 30, Pa.

EMPLOYMENT AGENCY SERVICE

Placement and Vocational Service for University and College men and women. Home Economics graduates and Dietitians. We offer a personal employment service, of the highest ethical standards, to meet the individual requirements of Employees and Employers. Inquiries by mail given prompt attention. WINSHIP PERSONNEL SERVICE, 127 North Dearborn Street, Chicago 2, Illinois.

LOOKING FOR SOMEONE?

Someone to fill a vacancy in your staff—a Business Manager—Superintendent of Buildings and Grounds —Purchasing Agent— Director of Food Service and Dormitories?

Or maybe you are thinking about making a change. If so, consider placing a "Want Advertisement" in the next issue of College and University Business.

Hermann Hospital Main Kitchen - Special Diet Kitchen.
2 HOTPOINT A-200 RANGES, 1 HOTPOINT BROILER WITH OVEN
HOTPOINT HG3 GRIDDLE-GRILL
Hermann Hospital's Attractive Snack Shop.
Hermann Hospital Floor Diet Kitchen (one on each of 5 floors).
1 HOTPOINT HM1 HOTPLATE, 1 HOTPOINT HG2 GRIDDLE

Texas Grand Award Winner Says—

ALL-ELECTRIC COOKING IS CHEAPER ...EASIER to CLEAN and MAINTAIN!

READ THIS *from*—

HERMANN HOSPITAL
HOUSTON, TEXAS

"In the designing of the new kitchen, sanitation and maintenance were kept in mind throughout.

"All ranges, roast ovens, broilers, fry kettles and bake ovens are *electric*. WE FIND IT IS CHEAPER AND IS EASIER TO CLEAN AND MAINTAIN."

4 OUT OF 5 GRAND AWARD WINNERS IN 1949 FOOD SERVICE COMPETITION HAVE HOTPOINT ALL-ELECTRIC KITCHENS

We believe no greater testimonial to the advantages of all-electric cooking and the superiority of Hotpoint Equipment could be given than its choice by the Grand Award Winners in four out of the five classifications in Institutions Magazine's Food Service Competition.

You, too, can profit through the experience of these and countless other leading food establishments with the application of all-electric cooking to your own business. The Hotpoint man is at your service and will gladly give you the facts about increased efficiency, lower costs, greater safety and better cooking with Hotpoint.

HOTPOINT INC.*
Commercial Cooking Equipment Dept.
211 South Seeley Ave., Chicago 12, Ill.

ALL-ELECTRIC COOKING *with* Hotpoint

*A General Electric Affiliate

Hermann Hospital Grand Award Winner equipment installed by Southern Equipment Company, St. Louis, engineered by Ralph J. Mulhauser Company, Dallas.

2 HOTPOINT 3 DECK BAKE OVENS, 1 HOTPOINT A-200 RANGE AND BAKER'S STOVE
Hermann Hospital Main Kitchen - Bake Shop.
2 HOTPOINT 3-DECK ROASTING OVENS, 4 HOTPOINT HEAVY DUTY RANGES.
Hermann Hospital Main Kitchen Meat and Vegetable Section.
2 HOTPOINT BROILERS WITH OVENS, 2 HOTPOINT K32 FRY KETTLES
Hermann Hospital's Sparkling Cafeteria.
HOTPOINT CUSTOM-MATCHED COUNTER EQUIPMENT: HG2 GRIDDLE, HM1 HOTPLATE, HT1 WAFFLE BAKER
Grand Award Winners
INSTITUTIONS MAGAZINE'S 3rd ANNUAL FOOD SERVICE CONTEST
• Hermann Hospital, Houston, Texas
• Michigan State College, East Lansing, Mich.
• Famous-Barr, Clayton, Missouri
• The Northern Trust Company, Chicago, Ill.
Schrafft's, Rockefeller Center, N. Y. City
*Hotpoint All-Electric Kitchens

Stop Back Syphonage—Protect Public Health

AT MANY FIXTURE OUTLETS a sudden drop in water pressure can result in dangerous pollution. Back syphonage, introducing tainted water or chemicals into a water line, can be the cause of an epidemic or even fatal poisoning.

Back Syphonage Impossible with SLOAN V-300-A Vacuum Breaker

On fixtures with small piping and low rates of flow, the SLOAN V-300-A VACUUM BREAKER will absolutely prevent back syphonage—on old installations as well as new—regardless of the degree of vacuum or how suddenly it develops.

SIMPLE, PRACTICAL, POSITIVE

The V-300-A will not leak, even though the flow is only a trickle. And it will withstand any back pressure that the fixture may cause.

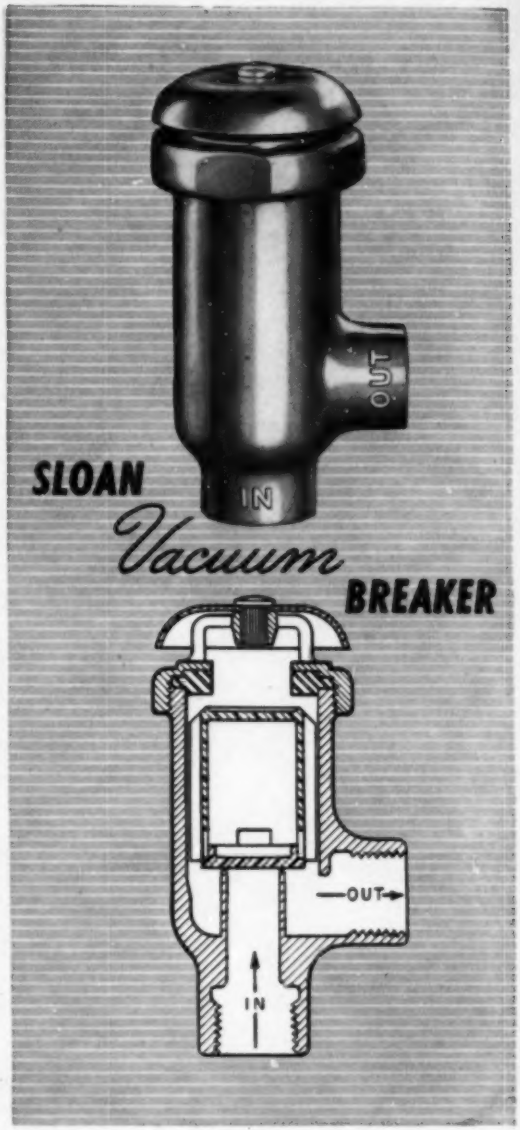
Design of the V-300-A is simple and practical. A float is lifted to its seat by the inlet stream—and by its own buoyancy when pressure is low. Thus, should back pressure build up to almost equal inlet pressure, there is no possibility of leakage.

A WORD TO PLUMBERS

The V-300-A should be installed vertically on the discharge side of the control valve above the highest part of the discharge pipe and overflow line of the fixture—inlet at the bottom and outlet at the side as illustrated.

• • •

Furnished in Chromium Plate, with inlet and outlet tapped ⅜", ½" or ¾" I.P. size as ordered.



Hospital Fixtures

Shampoo Fixtures

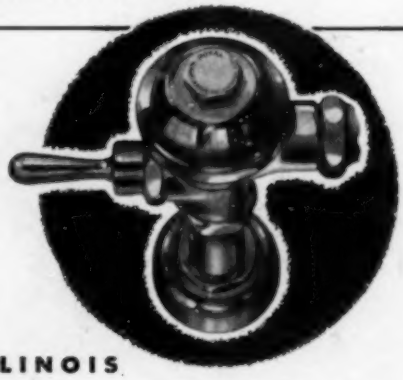
Laboratory Fixtures

Continuous Flow Baths

TYPICAL APPLICATIONS FOR V-300-A

Fountain Washers	X-Ray Photo Tanks	Aspirators
Dishwashers	Leg Baths	Bidets
Glasswashers	Arm Baths	Service Sinks with Hose
Photo Developing Tanks	Infant Baths	Autopsy Tables
Laboratory Supplies	Receiving Baths	Bed Pan Sprays
Shampoo Fixtures	Mortuary Tables	Sterilizers
Beauty Parlor Fixtures	Continuous Flow Baths	

SLOAN *Flush* VALVES



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